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ABSTRACT

The aim of this dissertation is to explicate memory's role in catechesis. Catechesis is a term that early Christians chose to describe their "...work of teaching the gospel and...to mean 'instruction given by word of mouth.'" A brief historical overview confirms the continuity between catechesis and memory from apostolic to present times. Selected tasks of catechesis, liturgy and worship, modeling, personal relationship, verbal instruction or explanation, listening attentively, recitation, practice and study, and selected aspects of memory for which they are stimuli are identified. The functions of the working, procedural, semantic, episodic, automatic, and emotional aspects of memory are defined within a cognitive neuroscientific perspective. Knowledge about the selected aspects of memory, useful to catechesis in planning and carrying out the tasks of catechesis, is discussed. It proposes that one of the goals of catechesis should be to achieve a catechization of the long-term working memory of each student to at least a pedestrian level of expertise indicated by: (1) religious literacy; (2) knowledge, understanding, skills-appropriate to age and capacity to think spiritually, ethically, and theologically; and (3) awareness of the demands of a religious commitment in everyday life seen behaviorally in such practices as regular attendance at Mass, religious studies, and church support via donations or personal service. It concludes with a discussion of the role and relevance of memory to the tasks of catechesis throughout a life-span. The primary points in this dissertation focus on selected aspects of memory, tasks of catechesis, and a view of the pervasive role that memory plays in catechesis. (Contains 13 notes, and 173 references.) (BT)

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MARYVALE INSTITUTE

MEMORY'S ROLE IN CATECHESIS

by Robert Bryan Williams

SO 033 893

A Dissertation submitted in
partial fulfillment of the degree
of MA of the Open University

Maryvale Institute, 2000

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ABSTRACT

The aim of this dissertation is to explicate memory's role in catechesis. A brief historical overview confirms the continuity between catechesis and memory from apostolic to present times. Selected tasks of catechesis, liturgy and worship, modeling, personal relationship, verbal instruction or explanation, listening attentively, and recitation, practice and study, and selected aspects of memory for which they are stimuli are identified. The functions of the working, procedural, semantic, episodic, automatic and emotional aspects of memory are defined within a cognitive neuroscientific perspective. Knowledge about the selected aspects of memory that is useful to catechists in planning and carrying out the tasks of catechesis is discussed. It is proposed that one of the aims of catechesis ought to be to achieve a catechisation of the long-term working memory of each student to at least a pedestrian level of expertise indicated by (a) religious literacy, (b) knowledge, understanding and skills appropriate to age and capacity to think spiritually, ethically and theologically, and (c) awareness of the demands of a religious commitment in everyday life seen behaviourally in such practices as regular attendance at Mass, religious studies, and Church support via donations or personal service. It concludes with a discussion of the role and relevance of memory to the tasks of catechesis throughout the life-span. The primary value of this dissertation is that it (1) descriptively relates selected aspects of memory and tasks of catechesis in practical ways and (2) provides a view of the pervasive role that memory plays in catechesis.

1. INTRODUCTION: A BRIEF HISTORICAL OVERVIEW OF CATECHESIS AND MEMORY

Prologue

The aims and objectives of this dissertation are to (a) inquire into the role and relevance of memory to the tasks of catechesis throughout the life-span; (b) identify selected tasks of catechesis and the aspects of memory for which they are stimuli; (c) define and summarize the functions of these aspects of memory with consideration for the cognitive neuroscientific perspective; and (d) discuss the usefulness to catechists of knowledge about memory in planning and carrying out the tasks of catechesis.

Catechesis is a unique term that early Christians chose to describe their '... work of teaching the gospel and ... to mean "instruction given by word of mouth" (e.g., Lk 1:4; Acts 18:25; 1 Cor 14:19; Gal 6:6)' (Ostdiek, 1990, p. 163). The most recent magisterial document, the *General Directory for Catechesis*, declares that catechesis:

> ... assists the person to ...' be '... open to the religious dimension of life ...' and, at the same time, '... proposes the Gospel ... to penetrate and transform the processes of intelligence, conscience, liberty and action making of existence a gift after the example of Jesus Christ (147).

What is of most interest for this dissertation is the reference to the Gospel's penetration and transformation of the processes of intelligence via catechesis. The *General Directory for Catechesis* does not define what is meant by the processes of intelligence. In practice, the notion of intelligence is generally thought of as a measure that is used to classify individuals as to their efficiency on a standardised battery of academic, vocational, perceptual-motor and social tasks. Commonly used measures of intelligence in countries where English is spoken are the tests developed by the American psychologist, David Wechsler (Sattler, 1988). At the time of this discussion, the most recent version of the test used to assess intelligence in children and adolescents is the *Wechsler Intelligence Scale for Children, Third Edition* (WISC-III). An aspect of this measure of intelligence that is relevant to the topic of this dissertation is the fact that of the 301 task items, 257 are described as involving some form of memory--e.g., long- and short-term, visual or immediate memory (Sattler, 1992). There is another perspective that would regard the context of the administration of any or all of the 301 task items as also assessing the individual's short-term or 'working memory.'[1] In its broadest sense, working memory can be thought of as the desktop of the brain.

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[1]Working memory will be discussed more completely in Chapter 3.

> It is a cognitive function that helps us keep track of what we are doing or where we are moment to moment ... (Logie, 1999, p. 174).

Researchers on memory make the observation that, '... it should not be surprising that differences in intellectual ability are in fact correlated with differences in short-term and working-memory capacities' (Schneider & Pressley, 1997, p. 70).

In summary, the purpose of this brief discussion has been to explain the dependence of what is commonly referred to as intelligence upon memory. From the perspective of this discussion, it is possible to gain some insight into how catechesis brings about the Gospel's penetration and transformation of the processes of intelligence through memory. The role of memory is emphatically supported in Wilhoit's (1986/91) observation that, 'One of the chief goals of Hebrew education was to make sure the people would never forget and would therefore always fear God and do his commandments' (p. 111).

In the sections that follow, the role of memory as it was and is manifested in the Church's oral tradition, scriptures and catechesis is discussed.

1.1. Memory and Oral Tradition

The purpose of this section is to examine the relationship between memory and oral tradition. In this context, oral tradition means the oral communication or handing over of divine revelation (Wuerl et al., 1995, p. 186). Usually the content of divine revelation to be shared via the oral tradition was retained within the memory of the patriarch, teacher or apostle. Human memory has clearly been a significant resource in the preservation of divine revelation. Memory is a very exciting and potent notion from the perspective and context of oral tradition. Boadt (1984) in his comments on oral tradition in the context of the Old Testament observes that memory in the ancient world was quite different than it is now:

> First of all, their memories were generally much better than ours. We are lazy about memorising things because we can look them up. Nevertheless, even they did not in our sense "memorise" every word. ... Oral style demanded that the storyteller stick to the well-known plot or the basic outline of the facts, but he often varied the details and the order of minor incidents, or even added in extra episodes if the celebration were a big one (p.77).

In a recent magisterial document, *Shrine: Memory, Presence and Prophecy of the Living God*, the terms memory and shrine are referred to analogously in the title of the document's initial section, 'The Shrine, A Memory of Origins', and in this section's opening statement:

> A shrine is first of all a place of memory, the memory of God's powerful activity in history, which is the origin of the People of the Covenant and the faith of each believer (SMP 4).

It must be assumed that at the time of the patriarchs of the Old Testament, the meaning of a shrine was communicated orally from one person and generation to another. The story and meaning of the shrine became enshrined, in a manner of speaking, in the memories of the members of the community. Boadt's explanation above indicates how the ancients would likely have memorised enough to recall and retell the story of the important patriarchal shrines of ancient Israel such as Shechem (Gen. 12:6-7; 33:18-20), Bethel (Gen. 28:10-22), or Beersheba (Gen. 21:33, 26:23-25, 46:1-4) (cf. Castelot & Cody, 1990, p. 1259 / 76:25-29[2]; SMP fn. 8). Even with the availability of the written scrolls, there was still a dependence by the Jews upon a lively oral tradition which continued amongst those who later became members of the Christian community. Regarding dependence upon oral communication by the early Christians, McKenzie (1965) observes that: 'The first generations of the Church were no doubt accustomed to communicate their beliefs by the means which were familiar to them from the rabbinical schools: the oral transmission of the material to disciples' (p. 897).

The Church has provided guidance for studying and interpreting the divine revelation of the New Testament:

> To Judge properly, the interpreter should pay attention to *three stages* by which the doctrine and life of Jesus have come down to us: (1) Jesus explained his doctrine, ... (2) The apostles ... proclaimed the death and resurrection of the Lord to others. ... (3) The sacred authors committed to writing in four Gospels ... primitive instruction that had been passed on orally at first and then in pre-Gospel writings (Brown & Collins, 1990, p. 1173 / 72:35).

A stunning example of someone whose life and memory spanned the first two of the three stages cited above is that of Mary, the Mother of the Lord. She was a key participant in the life of her son, Our Lord Jesus Christ, and likely shared her experiences with the apostles and early followers. From Mary's memory, they learned of the intimate details of the Lord's conception by the Holy Spirit at the Annunciation, His birth, and of her feelings toward His being lost and found teaching at the temple and being about His Father's business (cf. Lk 1-2). The scriptures recount that Mary '... treasured all these things in her heart' (Lk 2:51).

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[2] Citations from *The New Jerome Biblical Commentary* cite the page, chapter and paragraph numbers.

The earliest example of the oral tradition as memory for the Church is that seen at the time of the apostles who were '... the living link between Christian believers and the Jesus in whom they believed ...' (Brown & Collins, 1990, p. 1043 / 66:49). These apostles recruited successors with the intention of preserving and handing over the apostolic traditions to succeeding generations (cf. McKenzie, 1965, p. 871). The historian, Jaroslav Pelikan (1985) writes:

> ... [W]e must recognise that in the several decades between the time of the ministry of Jesus and the composition of the various Gospels, the memory of what he had said and done was circulating amongst the various Christian congregations, and probably beyond them, in the form of an oral tradition (p. 9).

Contemporary scripture scholars acknowledge that there were no significant Christian writings prior to about 50 AD when St. Paul wrote his first letter to the Thessalonians (Zeisler, 1983/90). Thus, there are many scholars affirming that up to and beyond the time of Paul's first letters, '... the Christian faith was communicated, preserved and nourished by word of mouth (Rom 10:14-15)' (Brown & Collins, 1990, p. 1043 / 66:49).

In this context, memory in the form of oral tradition exists simultaneously for and in the community and the individual. Memory and oral tradition are both notions related to preservation. Oral tradition describes the way a people handed over what was known in a way that it could be preserved or remembered for further handing over. In addition, memory from the perspective of a memorialisation to make the sacrifice of Christ present was an essential aspect of Christianity[3]:

> It is quite clear that from the beginning the memory of Jesus was celebrated, as he had commanded, in the form of a meal (cf. Acts 2, 42; 20, 7-11) (Schmaus, 1975, p. 53).

Jesus' transformation of the passover meal into the eucharistic meal had a significant impact on the memories of the disciples that was further reinforced by His public humiliation, abuse, death on the cross, burial and resurrection. Schneiders (1997) commenting on the origins of Christian spirituality notes that:

> ... [T]he resurrection of Jesus of Nazareth, ... inaugurated and shaped Christian spirituality. From the moment of that event Christianity was distinct from Judaism even though it would be some sixty years (ca. 90 C.E.) before the break between the synagogue and the newly consolidated Christian community would be definitive (p. 1).

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[3] cf. CCC 1362-1372

Memory of all these events was maintained throughout the oral tradition of the Church and on into the composition of the New Testament scriptures.

1.2. Scripture as Paper Memory

Documenting the life story of Jesus in writing tended to seem natural for the early Christians who had the benefit of the Jewish religious traditions that attributed such importance to scriptural memorialisation of their unique encounters with God (cf. Fleming, 1996). At the Second Vatican Council, the Church fathers reflecting on the writing of the Gospels comment:

> Whether they relied on their own memory and recollections or on the testimony of those who 'from the beginning were eyewitnesses and ministers of the Word,' their purpose was that we might know the 'truth' concerning the things of which we have been informed (cf. Lk. 1:2-4) (DV 19).

This comment alerts us to the important role that human memory has had in the preservation and transmission of the truths of our faith from the founding of the Church down to the present. One has only to read Saint Paul's first letter to the Thessalonians to get a glimpse into the prominent role that memory and remembering are given in Saint Paul's missives. Paul begins his letter by telling the Thessalonians that he prays for them and remembers them before God (1 Thess 1:2-3). Further into the letter there are the potent examples of Paul exhorting the Thessalonians to remember the time that he worked amongst them (1 Thess 2:9-12). The memory that such comments would stimulate is what is currently referred to in psychological literature as episodic memory. It is the very personal memory one has from one's experiences within a situation. By recounting his own episodic memories of being amongst the Thessalonians, Paul is reinforcing the experiences and connections that he and they share in the Lord Jesus Christ. It can be acknowledged that these were very powerful and enduring memories for Paul, the Thessalonians, and the Church through all the ages to the present.

Along with the memories documented in the epistles are those that came to be embodied in the gospels. Fleming (1996) reminds us that the writing of the epistles and gospels of the New Testament took place in the context of living, struggling, suffering, worshiping and not, '... in a vacuum: prayer and reflection on Scripture, polemic dialogue, anointed preaching and catechesis, were all going on within the communities which gave rise

to the documents we now call the New Testament' (p. 23). The New Testament documents and teaches about Jesus', birth, childhood, hidden life and obedience to family, baptism by John the Baptist, call of the apostles as the foundation of the Church, ministry of teaching, preaching and healing, rejection, and passion, death, and resurrection. According to Schmidt (1993), there is considerable veracity in the human recollections of Jesus that are enshrined in the New Testament:

> The image of Jesus which the gospels offer us is historically fundamentally trustworthy both in terms of its general framework and what concerns the recollection of many of the details about his person and activity (p. 56).

Natasha Fleming (1998) in her orientation lecture to the module on the New Testament discussed the reasons that the scriptures came to be written. Amongst the reasons she cited for writing the New Testament scriptures were: (1) to help converts maintain their commitment and loyalty; (2) as responses to the controversies with Jews and heretics (cf. Soggin, 1993[4]); (3) as missionary documents for evangelisation; (4) to encourage persecuted Christians; (5) as canon law to provide guidance as to how Christians should live; (6) simply to tell about who Christ was; and (7) as a replacement of the oral tradition. Pope John Paul II also reminds us that:

> Before being written down, the Gospels were the expression of an oral teaching passed on to the Christian communities, and they display with varying degrees of clarity a catechetical structure. St. Matthew's account has indeed been called the catechist's Gospel, and St. Mark's the catechumen's Gospel (CT 11)

Regardless of why or how the New Testament came to be written, the fact is that it became, in a manner of speaking, a 'paper memory' of the early Church's knowledge and convictions about Jesus.

1.3. Memory and Successful Catechesis

The 'paper memory' of the New Testament referred to above has been an essential resource for the Church. It has enabled the Church to maintain the orthodoxy of what has been taught and believed through the centuries. Even though the Church possessed a written New Testament, the small number of handwritten copies available limited the access that most Christians had to the scriptures for many centuries. Another issue that confronted the

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[4] p. 342, para. 14.12.5.1.

Church was that many, if not most, of the believers were illiterate. It is likely that well into the 16th century, prior to the availability of large quantities of economical vernacular translations of the scriptures and catechisms, most Christians were dependent upon oral instruction and catechesis by family and/or clergy. Common sense reminds us that even though many believers were illiterate they were able to understand the spoken word, to learn and remember what they heard when taught.

Nevertheless, an oral catechesis of the Christian faith continued long after the oral tradition had been replaced by the written scriptures. Even at this time, the Church could refer to St. Paul's written exhortation about faith coming from what is heard: 'So faith comes from what is heard, and what is heard comes through the word of Christ' (Rom 10:17). The catechised memories of the faithful were supported by the practices of regular participation in the liturgy of the Mass, reception of the sacraments, and prayer. Many of the most wonderful religious artifacts were created during the time when so many of the faithful were illiterate. History documents that crucifixes, rosaries, medals, statues, icons, and the beautiful stained glass windows of cathedrals with their representations of the events of the life of Our Lord, the Holy Family, the apostles and the saints also served as catechetical resources for the illiterate (cf. Flint, 1996). This suggests an environment saturated with religious and catechetical cues and stimuli for the memories of the faithful as they persisted in their life-long catechesis.

Finally, it must not be forgotten that even now all of us emerge from infancy into a childhood period of illiteracy. It is a time when we, like our predecessors, are dependent upon others to catechise us about the Lord Jesus Christ, Sunday, the liturgy of the Mass, and holy day celebrations. What is experienced and taught in these early years remains in the memories to be further nourished within the life-long catechesis of the Church.

The fact that this dissertation is being prepared for a course on religious education and catechesis that is being taught at the end of the second millennium is a testament to the success of the Church's catechesis and the tenacity and endurance of the memories of the catechised. Catechesis has been linked to memory since the beginning of Christianity (cf. CT 55). Contemporary neuropsychologists assert that, 'Memory is the ultimate measurement procedure of human experience' (Persinger, 1987, p. 53). Thus, a continuity between catechesis and memory can be affirmed from the time of the apostles down to the present. It

is not unreasonable to point to the multitude of devout and active Catholics as evidence of the great gift of memory that God has bestown on humankind.

The remaining chapters of this dissertation will cover topics such as: selected catechetical tasks as stimuli for memory, selected aspects of memory with catechesis in mind[5], catechesis with selected aspects of memory in mind, a discussion of a catechetical aspect of memory, catechised memory, and concludes with some serendipitous observations related to life-span catechesis.

[5] Titles for Chapters 3 and 4 are adapted from E. Jensen's (1998) *Teaching With The Brain In Mind*, Association for Supervision and Curriculum Development.

2. SELECTED CATECHETICAL TASKS AS STIMULI FOR MEMORY

Prologue

From amongst the many catechetical tasks, those selected for review in this chapter as stimuli for memory include liturgy and worship, modeling, personal relationship, verbal instruction or explanation, listening attentively, and recitation, practice and study. In many instances, the catechetical tasks as stimuli for memory will share many similarities and are likely to overlap and/or seem to be occurring simultaneously. It is important to point out that the content presented via the selected catechetical tasks is intended to be retained or learned and to be retrievable at a future occasion.

The tasks of catechesis whether directed toward infants, children, adolescents or adults are defined in ecclesial documents by notions such as 'clarify,' 'celebrate,' 'develop,' 'discern,' 'educate,' 'encourage' 'explain,' 'formation,' 'initiation,' 'lead,' 'memorisation,' 'moving,' 'primary socialisation,' 'promote' 'teach,' and 'train'.[6] All the notions mentioned above with the exception of 'memorisation' are carried out by a catechist. 'Memorisation' is a task for the catcheumen. In the presentation on the selected tasks of catechesis which follow, '[l]earning and memory are two sides of the same coin--learning is the process of acquiring and storing information, and memory is the stored information that may be retrieved' (Thompson, 1988, p. 63).

In this chapter, the selected catechetical tasks as stimuli for memory are presented in the order of the author's view of the significance and importance of the tasks in relation to one another. In this regard, the order is as follows: 2.1) liturgy and worship, 2.2) modeling, 2.3) personal relationship, 2.4) verbal instruction or explanation, 2.5) listening attentively, and 2.6) recitation, practice and study.

2.1. Liturgy and Worship

Amongst the most important catechetical tasks are the 'celebration of,' 'formation in,' and 'education into' liturgy and worship (cf. AG 14; GDC 51 & 85). What is unique about the catechetical tasks of liturgy and worship is that the catechist can facilitate attendance and participation, but is unable to take primary responsibility for providing the liturgical experience. The catechetical tasks of liturgy and worship need to be included in the planning

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[6] cf. AG 14; DCG 78-79, 83, 85, 97; GDC, 24, 51, 85, 86, 144, 154, 175-182; CT 29, 58.

for the delivery of a comprehensive catechesis because '... the very act of participating in liturgical celebrations is of catechetical value' (Mulvihill, 1999, p.6; cf. Anderson, 1997). This is especially true for catechesis provided for children and adolescents who participate in religious education programmes at their parish when there is no religious education at their schools. Participation in religious education does not necessarily guarantee that children and adolescents are attending the liturgy of the Mass. Here are some recent comments by a pastor about this issue:

> What kind of a message is given when Mom or Dad merely drops off the child for Religious Ed classes? There is no effort to attend Mass either before or after class? What sort of subtle formation of our young is happening? (Thibeault, 25-26 September 1999).

With this in mind, a catechist may find it necessary to create and/or increase the opportunities for those attending parish religion classes to participate regularly in the liturgy of the Mass. Attention to regular participation in the liturgy as an essential aspect of formation is endorsed in Richstatter's (1990) observation that, '[a]ll genuine liturgical formation involves ... practice ... obtained first and mainly through the ... liturgical life ...' (p. 838).

What a catechist ought to hope to see emerge amongst those being instructed is the attainment of a familiarity with the liturgy of the Mass that has some quality of what neuroscientists identify as fluency and automaticity (cf. D'Arcangelo, 1999). Automaticity and fluency refer to mental processes of memory that are or become available '... without intention or conscious awareness ...' (Ashcraft, 1989, p. 693). Quite simply, this would mean that the individual attending Mass is immediately aware of what is happening, what preceded and what will follow. A familiar example is when the priest says, 'The Lord be with you,' and those present respond without hesitation, 'And also with you.' This is the level of familiarity that it is hoped an individual will achieve prior to or throughout the time of catechetical instruction about the liturgy of the Mass. Liturgy itself facilitates the attainment of familiarity, fluency and automaticity in the memories of participants because: '... liturgical celebration is repetitious. General structural patterns of gathering and sending, word and action, prescribed ritual dialogue, and patterned action repeat themselves in almost every rite' (Ostdiek, 1990, p. 171).

The attainment of automaticity with regard to the liturgy of the Mass may have occurred unintentionally for many of us just because we were brought to Church week after

week throughout our childhood (Bargh & Chartrand, 1999). It is essential for effective liturgical catechesis that individuals have experiences of the liturgy of the Mass that result in attainment of the level of familiarity discussed above. Such familiarity will make catechesis a more natural experience than it might be if the catechist has to orient the individual to the elements of the Mass every time instruction is provided. An additional benefit is that, '[f]amiliarity ... can free us to pray better' (Huck & Chinchar, 1998, p.13; cf. CCC 2688). The level of familiarity with the liturgy of the Mass that is proposed here might be considered as an initial foundation or readiness for effective liturgical catechesis.

A basic and working definition of liturgy is that it '... is the word currently used amongst Roman Catholics and ... some Episcopal and Protestant scholars to describe the public worship of the church' (Madden, 1990, p. 740). Irwin (1994), a liturgical and sacramental theologian, refers to the liturgy as a '... communal act of memory ...' (p. 98). It is a 'communal act of memory' that becomes stimuli for each communal participant's memory. Public celebration of the liturgy and worship is a context that provides some of the most complex, enriching and engaging stimulation for memory. This is especially true of the sacramental liturgy which provides a context that provokes the most sensorially and physically involving--hearing, seeing, smelling, tasting and propriceptive--liturgical stimuli. A very comprehensive list of '*... signs perceptible to the senses*' has been assembled by Maggiani (1998, p. 229) from the Vatican II document *Sacrosanctum Concilium* (The Constitution on The Sacred Liturgy). The variety of stimuli seen in liturgy and worship include '... words, music, bodily actions, or silent contemplation' (Bishop, 1990, p. 1331; cf. SC 21, 24, 30, 33 and 39). Also, there are other stimuli such as colour in the vestments, altar appointments, statues, flowers and stained glass windows, etc. (SC 122-130; cf. Wilkins, 1999b,c), taste of bread and wine, and scents of burning candles, incense and flowers.

In the midst of this variety of stimuli, it is noticeable that the dominating element of the liturgy--sacramental and non sacramental--is the read and/or spoken word: 'The Word ... has traditionally been and remains a foundational element experienced in all liturgy' (Irwin, 1994, p. 85). During sacramental liturgy, 'the Word is of course sacrament; the sacrament, on the other hand, is an actuation of the Word' (Catella, 1998, p. 13). A notion that is comparable to actuation of the word in the contemporary psychology of memory and learning is referred to as the proceduralisation of declarative, semantic or word knowledge (Crahay, 1996). When we speak of the actuation or proceduralisation of word in the contexts of

liturgy, memory and learning, we are referring to the transformation of word into action. Within the perspective of the transformation of word into action, it is meaningful to recall that the Hebrew term for 'word' which is 'dabar' is itself defined as '... a kind of deed, happening or event' (Cannon, 1990, p. 1325; cf. McKenzie, 1965). Transformation of the Word into action is most readily experienced during the Eucharistic Consecration Prayer of the liturgy of the Mass:

> The day before he suffered he took bread in his sacred hands and looking up to heaven, to you, his almighty Father, he gave you thanks and praise. He broke the bread, gave it to his disciples, and said: Take this, all of you, and eat it: this is my body which will be given up for you.
> When supper was ended, he took the cup. Again he gave you thanks and praise, gave the cup to his disciples, and said: Take this all of you, and drink from it: this is the cup of my blood, the blood of the new and everlasting covenant. It will be shed for you and for all so that sins may be forgiven. Do this in memory of me (American Editorial Commission, 1982, p. 21; cf. Mt 26:26-28; Mk 14:22-24; Lk 22:17-20;1Cor 11:23-25).

Whilst praying this Eucharistic Consecration prayer, the priest simultaneously says what Jesus said and does what Jesus did and transforms written word into spoken word and action. Rosser has commented about words in similar sacramental contexts:

> In some usages, words actually do something, and in these cases they are called "performative speech acts." A simple example: The words "I baptise you." or "I forgive you," or "Bless you!" do not simply refer to actions; they actually accomplish the actions described (Rosser, 1996, p. 3 in Huck & Chinchar, 1998, p. 13).

Another observation that can be made about the liturgy of the Mass from the perspective of memory and learning is that there are a variety of bodily gestures--genuflecting, kneeling, standing, and making the sign of the cross--that accompany various components of the liturgy such as the reading of the gospel, the homily, the canon and communion (cf. Huck & Chinchar, 1998). Bodily gestures during the liturgy and worship is one of the contexts where automaticity is very apparent. As Wilkins (1999a) observes: 'Most of us can go through the motions at Mass without thinking about them' (p. 26). Reflection on the reasons for and the meaning of these bodily gestures that Wilkins (1999a) refers to as 'non-verbal expressions of our faith (p. 26)' is quite appropriate. It is worth the observation that these bodily gestures may also enhance our ability to maintain our attention during the

whole of a liturgical service. There is some discussion about the positive effect of bodily gestures on attentiveness in section 2.5 Listening Attentively.

Finally, the following are some comments about one other influence and/or stimuli for memory from liturgy and worship. It has been asserted that '[t]he liturgy is ... time-centered ...' (Mello, 1990, p. 736). In this regard, liturgy and worship confront humankind with a unique notion of 'liturgical time' as stimuli and context for memory. For most of us, our earliest experience of liturgical time began with our introduction to what Huck and Chinchar (1998) refer to as 'named days' such as Christmas and Easter and the days of Advent and Lent which preceded them. We came to an understanding of the liturgical year as we experienced Christmas and Easter over and over again:

> The Church "re-lives" the central events of salvation history each liturgical year (Conrad, 1996, p. 15).

In the time of childhood, we became aware that there are days when parents, especially fathers, stay home from work and the family attends the liturgy of the Mass. These were also days when we had very special meals which were shared with invited relatives or friends of our parents. Within the context of these childhood recollections, the observations made by Catella (1998) become personally meaningful:

> ... [T]he liturgy is ... a special time that symbolically suspends the flow of time. Liturgical time generates the time of existence in the sense that it enables humans to grasp the meaning and value of the days on which they are called to work. The term "sabbatical" is the source and summit of industrious time (p. 25).

So it is that we have a memory of our own recurring participation in the dedication and consecration of the weekly liturgical time long before we are able to understand or explain it ourselves. As we mature we are able to understand that '... in the weekly reckoning of time, Sunday recalls the day of Christ's Resurrection. It is Easter which returns week by week ...' (DD 1). Finally, one could speculate that an appreciation and awareness of 'liturgical time' is likely to be enhanced amongst those who are catechised via one of the contemporary approaches to catechesis referred to as liturgical or lectionary based catechesis (cf. DeVillers, 1994; Novak, 1996).

In Summary, this section of the chapter reviewed ways in which selected aspects of the catechetical tasks of liturgy and worship are stimuli for learning and memory. It proposed that familiarity with the liturgy of the Mass makes catechesis a more natural experience than if the catechist has to orient the individual to the elements of the Mass every time instruction

is provided. The liturgy and worship is acknowledged to be a context that provides some of the most complex, enriching and engaging stimulation for memory. Amongst the variety of stimulation for the memory, the dominating element of the liturgy--sacramental and non sacramental--is the read and/or spoken word. The significance of the word is emphasized in a discussion of its transformation into action in the contexts of liturgy, memory and learning. The section concluded with a review of the impact of bodily gestures at liturgy and 'liturgical time' on memory and learning.

2.2. Modeling

Modeling and/or witnessing is the catechetical task that contributes to the 'formation by example' for imitation by infants, children and others learning about, developing and seeking to live a 'genuine Christian life' (cf. GCD 78-79). Willey (1996) observes that, '... the attractiveness of Jesus and of His saints suggests the importance of education by offering role models' (p. 34; cf.VS 8, 90-93). In this regard, it is recommended that the catechesis of adolescents present: 'The revelation of Jesus Christ as a Friend, Guide and Model, capable of being admired but also imitated...' (CT 38). In further comments on modeling, Willey (1996) notes that: 'Christianity is ... the transmission of a life. This life is transmitted by people, and not through words only, as a message, but as something enfleshed' (p. 34).

The *General Catechetical Directory* asserts that the 'Christian qualities in catechists are a greater guarantee of success than the methods chosen' (71; cf. GDC 156). Experience has also shown that it is important for catechists and adults who teach to model honesty, kindness, respectfulness, understanding, empathy, compassion, knowledge, authenticity, patience, courteousness, simplicity, thankfulness, prayerfulness, fear of the Lord, composure, stability, a sense of humor, and loyalty (Marianist Project, 1989; cf. Clemens, 1960/62).[7]

Dedicated catechists need, '... to be supported by the witness of the ecclesial community. For catechesis is more effective when speaking about what actually exists visibly in the community' (GCD 35; cf. GDC 158). Thus, magisterial documents assert that for catechists and catechumens, '[t]he example of living faith given by others--at home and in the larger community--remains highly important and catechetically effective' (SLF 179; cf. GCD 35). In fact, it is likely that: 'Many adults outside the home affect a child's religious

[7] Behavioural descriptors were developed for these 'characteristics' as evidence of thought and action, 'actio sequitur esse' (cf. May, 1994, pp. 29-30).

life. The priests who celebrate Mass in the parish have an effect, good or bad. So do Confraternity of Christian Doctrine teachers, as well as teachers in parochial schools. It is important that youngsters find adults in parish life whom they see as Christians who are alive in Christ ...' (DiGiacomo & Wakin, 1972, p.8). A similar recognition of the value of 'models' is also found amongst contemporary Orthodox Christians. Frank Schaeffer (1994) writes: '... Orthodoxy in America needs most desperately ... a legitimate and indigenous monastic movement. We need examples to live by and we need prayer! ... We need true spiritual guidance that only life-long monks and nuns can give us' (pp. 311-312).

Finally, there is the fact that the Church is constantly identifying and designating individuals amongst her members as models and examples: 'By canonizing some of the faithful, i.e., by solemnly proclaiming that they practiced heroic virtue and lived in fidelity to God's grace, the Church ... sustains the hope of believers by proposing the saints as models and intercessors' (CCC 828). Hagiology, the 'literature dealing with the lives of saints' is a useful resource about these models proposed by the Church. Here Christians can learn about '... the spiritual tradition and long history of the saints who have gone before ... and whom the liturgy celebrates in the rhythms of the sanctoral cycle' (CCC 2030; cf. Delfanne, 1997a; ND 1258; SC 111). Parents, catechists and teachers will find hagiological material an excellent resource for models of living and developing as an outstanding Catholic.

Modeling is summarised quite nicely for the purposes of this essay via the several topics proposed by Schimmels (1999), a Protestant Evangelical, who wrote: (a)'We need to remember that we are models' (p. 68), (b) Lessons taught by modeling have a long future' (p. 69), and (c)'Teaching through modeling is appropriate for all ages' (p. 70).

2.3. Personal Relationship

The objective of the catechetical task of personal relationship, as well as the other tasks reviewed in this chapter, is to share with the catechised how, 'Jesus Christ is the living and perfect relationship of God with man and of man with God' (GDC 145). The initial memories of personal relationships intended for humankind are those that are constructed within the family setting via interaction with parents and, if there are any, with siblings. In the family context the individual receives, experiences and returns love and affection to parents, siblings, relatives and eventually others (PTE 792, 794). The family-group models what the individual needs to learn by imitation and communication. These comments are

based upon Ranwez's (1968, 1970) articles, 'Parents as Educators of their Children's Faith' and 'The Awakening and Development of the Sense of God in 6 to 8-Year-Old Pupils.' Ranwez (1970) describes how an individual attains a sense of God through the parents.

> [T]hey must stand beside their child in a joint act of worship. It is in this joint act that the child may gain his first notion of a God distinct from the familiar world he sees around him. For this to happen, God must be named. ... That is to say, the name of God should be spoken by the parents in prayer; their own particular prayer, in which they invite their child to participate (pp. 620-621).

Thus it can be seen that the personal relationship individuals develop with God and education in prayer begin through vicarious participation in and modeling of parents' devotions (cf. CCC 1685). Thus it is in the family that individuals learn that '[t]he human word is the vehicle of the divine Word' and ' ... it becomes the means of real interpersonal relationship between God and believing human beings ...'(Mulvihill, 1999, p. 86).

The influence of personal relationships as stimuli for memory continues as the influences on the child expand from the family to the church, school and community. Some time ago, Elkind (1970) wrote the following comment on the significance of the relations between teachers and students:

> ... [T]he teacher's warmth and concern for her children, her flexibility and originality, her democratic attitudes, and her familiarity with her subject all play an important part not only in determining what the child learns but also ... attitudes and feelings about the subject matter (pp. 230-231).

In the United States, the impact of personal relationship is recognised in a recently implemented notion of 'personalised learning' in the sphere of secular public education. Advocates of this approach to education observe that:

> Relationships are the foundation of a personalised school. Opening students' minds to lifelong learning requires cultivating their trust and respect. Without a positive student-teacher relationship, many students aren't even willing to try (Littky & Allen, 1999, p. 26).

This awareness of the positive influence of a personal relationship between teacher and student has long been recognised by those involved in catechesis and religious education:

> In catechesis apart from catechetical aids there are other decisive factors: the person of the catechist, his method of transmission, the rapport between catechist and those being catechised ... etc. (GDC 132 fn. 42).

Another aspect of the personal relationship of catechist with the catechised is a continuing witness to the catechised of what they will not be able to come to know and understand without genuine catechesis and guidance. It is also important for catechists and religious educators to keep in mind that there is a greater common bond with those they catechise than between students and teachers of secular subjects. For example, the catechist and the catechised share in a community of faith and a relationship with God through prayer.

> Prayer is a living relationship with God in, with and through Jesus Christ ... . All prayer, whether private or public is God's gift, the action of the Holy Spirit in us and an expression of this living relationship (ComC p.25).

In the examples presented in this section, it becomes clear that the catechetical task of personal relationship is essential for catechetical effectiveness. The personal relationships nurtured in catechesis can influence the attitude toward and the personal relationship that may be nurtured by the catechised with God. As Novak (1996) observes: 'God is found in the stories we tell and the relationships we nurture' (p. 7). The only way that the catechised can love God is to know Him; and the way they begin to know Him is through the personal relationships with those who love them and are models of lovers of God--parents, siblings, relatives, etc (cf. Jensen, 1998; PTE 397). There is no getting away from the fact that it is through such experiences that the catechised attain memories that will be the foundation of their 'faith' life that they will, in their turn, share with others.

2.4. Verbal Instruction or Explanation

Verbal instruction or explanation refers to catechetical tasks such as 'educate,' 'explain,' 'clarify,' and 'develop' (cf. GCD 97; GDC 175). Verbal instruction or explanation about the mysteries of our faith are amongst the earliest organised stimuli offered to the memories of catechumens (CT 18). Verbal instruction and explanation was the primary method Jesus modeled to the Apostles (cf. Mt 28:19).

> Anyone can see, for instance, how important it is to make the child, the adolescent, the person advancing in faith understand "what can be known about God" (Rom. 1:19) ... (CT 29).

Let us examine some of the issues regarding the preparation of a catechetical lesson for formal instruction with the intention that the essentials of the lesson will be remembered. Before beginning, it is useful to review selected ideas about organising and presenting the lesson in a manner that will make it easier to remember. Some examples of formats that may

be followed in developing a lesson include the developmental, inductive, chronological or a mixture of these. The developmental format attempts to match the content of the lesson to the 'comprehension and experience of the students' (ETTA, 1983, p. 61; cf. Wilhoit, 1986/91). The inductive format involves structuring and organising the material in an orderly fashion. This can be clearly demonstrated when order is an essential aspect of the lesson being presented. One form of order is to teach from the known to the unknown and/or from the sensible to the invisible (cf. DGC 72; GDC 150). The chronological format is the easiest to implement. Events and elaboration on them are presented in the order in which they occur or in their historical relationship to one another (ETTA, 1983). An example of a mixture of developmental-chronological would be presenting historical events according to a format that the age group is able to comprehend.

Along with the verbal instruction or explanation format that is selected, there are guidelines about verbal instruction from a variety of secular sources that are validated by the similarity of their recommendations (cf. ETTA, 1983; Harvey, 1995; Kuepper, 1990; Zakrajsek, 1999). The guidelines to be kept in mind when using a verbal instructional or explanation format include, at a minimum: (a) simplification of terms and ideas, (b) advanced organisers (Kuepper, 1990) of no more than three to five ideas (Lowman, 1995)[8], (c) relate the instruction or explanation to prior instruction or explanation (ETTA, 1983), (d) new ideas are explained prior to instruction (Harvey, 1995), (e) ideas are related to life (ETTA, 1983; Harvey, 1995), (f) examples are provided (Galliano, 1999), (g) important ideas are identified (ETTA, 1983; Harvey, 1995; Zakrajsek, 1999), (h) check for understanding whilst instructing (Harvey, 1995; Zakrajsek, 1999) and (i) plan to review and repeat important concepts taught.[9] Finally, the positive attitudes that one should have toward verbal instruction or explanation include enthusiasm, humor, caring and honesty (Zakrajsek, 1999).

Research on memory compels us to recognise that there is considerable incentive to provide lessons that are comprehensible and organised because: 'Children, like adults, do not do well at remembering confusing or noncomprehensible material; confusing material tends to fall out of memory' (Wilhoit, 1983, p. 12). We are bound to keep in mind when delivering

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[8] Cited in Zakrajsek, 1999

[9] Related to this is Pennington's (1986) observation that, 'In Cistercian monasteries we call the talks the novice master gives to the novices three or four times a week "Repetitions." We need to hear basic things again and again, in different ways, from different angles. Repetition is the mother of wisdom' (p. 2).

verbal instruction and explanation that, '... the more highly structured the items of knowledge are the less space they will occupy in the working memory' (Crahay, 1996, p. 70). The catechetical task of verbal instruction or explanation when considered within the perspective of what human memory is capable of suggests that careful and thoughtful preparation is necessary to have an effective impact on learning and memory.

2.5. Listening Attentively

A first impression of the catechetical task of listening attentively is that it is primarily the responsibility of the catechised and not the catechist. Nothing could be further from the truth. Whilst it is true that the catechised are expected to be listening attentively in the catechetical or religious educational context, it is also necessary for the homilist, catechist or instructor to know something about what listening attentively involves. It is helpful to begin the discussion with a definition of 'listening attentively.' Most of us would accept that to be listening attentively is to focus one's aural sense on the particular stimuli of the verbal lesson being presented by a catechist, homilist or teacher with the intention of hearing and remembering it.

Now, some of the recent research proposes that there are very significant limitations to the endurance of human attention:

> Generally the brain does poorly at continuous high-level attention. In fact, genuine "external" attention can be sustained at a high and constant level for only a short time, generally 10 minutes or less (Jensen, 1998, p. 45).

Even this comment needs to be seen from a developmental perspective. Studies suggest that the age and maturity of the listener determines the amount of attentive listening that can be sustained:

> As a guideline, use 5-7 minutes of direct instruction for K-2 [ages 5 to 8 yrs], 8-12 minutes for grades 3-7 [ages 8 to 13 yrs], and 12-15 minutes for grades 8-12 [ages 13 to 18 yrs] (Jensen, 1998, p. 49).

Thus, in thinking about catechesis, one must be mindful of the limitations of attention. Fortunately, the literature that describes the limitations of attention also suggests strategies to gain and to maintain attention. Jensen (1998) proposes notions such as 'contrast' or 'novelty' as attention getting. Many of the strategies are known to and used by teachers. For example, rotating activities from a brief lecture to group or individual work, changing the location of the teacher, students and even the location of the class meeting. Jensen (1998) makes the

recommendation that: 'Overall, you'll want to provide a rich balance of novelty and ritual. Novelty ensures attentional bias, and ritual ensures that there are predictable structures...' (pp. 50-51).

It is edifying to reflect on the fact that long before psychological researchers identified the need for novelty and ritual in pedagogy, it has been an essential aspect of the liturgy of the Mass. For example, standing during the reading of the gospel is likely to enhance our attentive listening. Another practice experienced during the liturgy of the Mass that would be endorsed by educational psychologists is the practice of silence and reflection after listening to the first and second readings and the homily (cf. Huck & Chinchar, 1998). These brief periods of reflection are in accord with the notion that, 'After learning, the brain needs time for processing and rest' (Jensen, 1998, p. 49).

Beyond a catechist's understanding and adaptation to the limitations of humankind's ability to listen attentively, there may also be the need to teach about listening as a skill itself which provides the student with the stimuli essential for learning and memory. Some examples of approaches that catechists can take are: to indicate a reason for listening (Gettinger & Knopik, 1987), provide 'advanced organizers' such as the section topics of this chapter (Kuepper, 1990), or investigate the proficiency of an individual's 'listening skills' (Harvey, 1995). From all that has been said, it is clear that listening attentively can be regarded as essential to both our intellectual and spiritual well-being. The concern that has been expressed above about the topic of listening attentively takes on considerable significance within the perspective of the following quotation:

> The word "obedience" comes from the Greek "to listen". It means to hear with your heart, to be attentive to what is unspoken as well as to what is spoken (Willey & Willey, 1992, p. 69).

Thus, one could speculate that not to learn to listen attentively may result in not being able to learn and not to be able to practise obedience which is essential to our very way of life. 'Indeed the conversion to God which we should realise through faith is a form of obedience (cf. Rom. 16:26), which should correspond to the nature of divine Revelation and its demands' (ME p. 432).

In summary, listening attentively as stimuli for learning and memory is not only the responsibility of the catechised. In this section, catechists are introduced to data on the limitations of human attention and to examples of pedagogical strategies that have proven

effective in remediating for these limitations. It is proposed that catechists teach about listening attentively which is a study skill that is essential to learning and memory.

2.6. Recitation, Practice, and Study

The catechetical tasks of recitation, practice and study ought be used by catechists to help the catechised learn and remember their formal instruction. It is also the responsibility of the catechised to work at learning and remembering the formal instruction they have received via practice, recitation and study.

> The active participation of all the catechized in their formative process is completely in harmony, not only with genuine human communication, but specifically with the economy of Revelation and salvation (GDC 157).

Recitation, practice and study as stimuli for memory bring this discussion to the threshold of the topic of memorisation. Much of the literature on catechesis and religious education communicates the impression that there seems to have been a hiatus from memorisation as a method to be applied in catechesis and religious education after the Second Vatican Council (cf. Bailly, 1981; Konstant, 1980; Mallon, 1980; Massion, 1993; Philbert, 1980; Ryan, 1977, 1978; Willey, 1997). It is worth noting that the writings on catechesis and religious education published after the Second Vatican Council during the middle of the 1960s through the 1970s, did not explicitly recommend that memorisation be abandoned. The essays were scholarly commentaries on the implications of the research on the cognitive and/or religious development of children and adolescents for the teaching of religion (eg., Goldman, 1964, 1965; Elkind, 1964; Isert, 1969). The consequence of the influence of these essays was that religion teachers and catechists put greater emphasis on teaching from the perspective of what it was believed that children and adolescents could comprehend. Recalling that time, Massion (1993) writes:

> After Vatican II the method of teaching completely changed. I remember a child of the sixties telling me: "We began the week with the Baltimore Catechism and by the week's end we were floating balloons." The emphasis was completely changed, focusing on meaning rather than recitation (p. 27).

There was also a tendency to abandon drills, recitation and practice during catechetical and/or religious instruction. The result was that some youngsters were unable to demonstrate that they had learned prayers or doctrinal formulas.

As early as 1971, in the *General Catechetical Directory*, the Church proposed that the catechised commit to memory dogmatic formulas '... for professing the faith and for praying, such as the Apostles' Creed, the Lord's Prayer, the Hail Mary and other similar prayers ...' (DCG 73). Controversy regarding memorisation in catechesis and religious education continued beyond 1971 because Pope John Paul II found it necessary to raise the issue again in 1979 in *Catechesi Tradendae*. Pope John Paul II writes:

> We are all aware that this method can present certain disadvantages, not the least of which is that it lends itself to insufficient or at times almost non-existent assimilation, reducing all knowledge to formulas that are repeated without being properly understood (CT 55).

By the late 1970s and in the 1980s, after the publication of *Catechesi Tradendae* and *Sharing the Light of Faith: National Catechetical Directory for Catholics of the United States*, essays on the role of memorisation in catechesis and religious education began to appear in the United States and the United Kingdom (eg., Bailly, 1981; Konstant, 1980; Mallon, 1980; Philbert, 1980; Ryan, 1977, 1978).

A scan of the Educational Resources Information Center (ERIC) database for publications on 'memorisation' for the years 1966 to 1999 resulted in 1,671 documents on the topic of 'memorisation'.[10] When the dates of the search are narrowed to the years 1966 to 1980, there are 561 documents involving the topic of memorisation. Including the years 1981 to 1985 adds another 287 items on memorisation for a total of 848 documents submitted over a period of nineteen years. Thus, amongst secular educators, it seems that there has never been a hiatus in interest in memorisation. Interestingly, of the total 1,671 documents involving the topic of memorisation, 823 or 49% of the total were submitted to the ERIC database from 1986 to the present--a span of thirteen years. No documents were found in the ERIC database on memorisation and catechesis or religious education. It can be inferred from recent selected educational literature that the methodology of memorisation is an issue about which even scholars in secular fields of learning have expressed an interest and concern (Parsons, 1996). For example, Cohen (1996) has observed that:

> Even the most parrot-like learning of facts requires some skill--at the very least, memorizing is itself a skill that can be developed by practice and helped by various 'tricks'. .... If learning facts without

[10] As of 26 October 1999.

acquiring any skills is unlikely, then so too is the reverse (p. 275).

Recent research supports the importance of memorising and learning academic subject material as a prerequisite to interacting in a meaningful way about the academic material (cf. Cohen, 1996; Kember, 1996).

It is also worth noting that within the essays on memorisation in catechesis and religious education, some authors have included anecdotal comments and reflections about the usefulness of memorisation beyond the catechetical or religious education assignments. For example, Father Mallon (1980) writes: '... [M]y life experience has revealed that it is impossible to get the gist of anything without precision and that formulas learned in my youth have helped to monitor my mature speculations' (p. 6). Amongst evangelical Christians, memorisation of the Bible is an essential component of religious education (e.g., Beechick, 1982; Cionca, 1990). The impact of this practice surfaced in a paper on case study activities to see Church through the eyes of Sunday School children (Williams & Gay, 1998). It was observed that a youngster's memorisation of his religion assignments and Bible verses also helped him to improve his memorisation of secular academic subject material. Also, one might speculate with Morris (1999) that this youngster's performance may be an example of the '... link between the quality of [his] religious formation or socialisation and academic effectiveness' (p. 9). Then there is Philibert's (1980) powerful observation that, 'By encouraging children to memorise, we point them in the direction in which they have to work in order to understand'(p. 305).

So what is the problem with memorisation? When selected articles on memorisation in a variety of topic areas are reviewed, the notion emerges that there is a need to teach students about the benefits and strategies of memorisation. For example, this same notion is found in articles on catechesis and/or religious education (eg., Bailly, 1981; Konstant, 1980; Mallon, 1980; Philbert, 1980; Ryan, 1977, 1978), concept formation (Sylwester, 1985), hearing impairment (Parsons, 1996), history (Brown & Sproson, 1987), literature (Todhunter, 1973), mathematics (Milman, 1979), music (Hallam, 1997), memorisation and/or study (Brown et al., 1980; Cohen, 1996; Gettinger & Knopik, 1987; Harvey, 1995; Hodges, 1982; Kember, 1996; Kuepper, 1990; Neimark et al., 1971), psychology (Sternberg, 1999), Spanish vocabulary (Hayes & Hood, 1982), and telephone numbers (Scott & Goetz, 1978).

Catechists will find that the strategies of memorisation that they can share in their lessons will prove useful and helpful to many of those they catechise. An example is always

instructive. When I taught catechism, I broke down memory tasks into increments. The approach was similar to Ulrich's (1999) approach to memorising scripture, except that the study materials were prepared by the teacher. Each student received four assignment sheets, one on each day of the week from Monday through Thursday. The accuracy of the students' memorisation of each assignment was assessed on the following day. A child would only need to memorise and learn the italicised lines and add them to what had been learned the previous day. The example given below is to suggest how parts of the 'Lord's Prayer' might be memorised in increments during a week.

Monday: Our Father, who art in heaven,
hallowed be thy name;

Tuesday: Our Father, ... hallowed be thy name;
thy kingdom come;
thy will be done on earth as it is in heaven.

Wednesday: Our Father, ... on earth as it is in heaven.
Give us this day our daily bread;
and forgive us our trespasses
as we forgive those who trespass against us;

Thursday: Our Father, ... trespass against us;
and lead us not into temptation,
but deliver us from evil.

For very young children, I usually attached some guidelines about how parents might assist with the process throughout the week. For example, I would suggest that parents support the child's memory work by (1) reciting with the child, (2) distributing the recitation and practice over many short sessions, (3) helping the child overlearn the 'Lord's Prayer', and (4) being supportive by reinforcing the child's recitation and practice (cf. Hamachek, 1990; Harvey, 1995; Wilhoit, 1986/91). By Friday, the whole of the 'Our Father' prayer is mastered. Presenting memory assignments in this manner also introduces children to a strategy for how other school material might be memorised. This approach is referred to as 'incremental learning' which is '[l]earning that occurs a little bit at a time rather than all at once' (Hergenhahn, 1988, p. 75). During the weekly lesson, I also found it helpful to provide opportunities for the catechised to rehearse the 'Lord's Prayer' via recitation and practice. Now, if someone were to raise the question of whether the children understood the 'Lord's Prayer', I would refer them to LaVerdiere's (1994) observation:

> Had I waited to memorise the Lord's Prayer until I could finally understand it, I still would not know it from memory. ... Does the

> time ever come when someone can fully understand the Lord's Prayer? (p. 36; cf. Ryan, 1977).

Another approach that I have used is to have each student write and keep their assignments in a sewn notebook from which it is unlikely that pages will be lost or removed. I have also referred to the notebook as a 'paper memory' of the catechism class. In their notebooks, student's respond in writing to assignments with which they are to become so familiar that they can engage in a meaningful discussion during the weekly lesson. The notebook is a tool that requires guidance by the catechist. It assures the catechist that the students have processed and interacted with the material, and offers the opportunity to share other approaches to recitation, practice and study. How the catechist assists students with memorisation and study strategies will depend upon the age of the students. Usually, the younger the students, the more one needs to structure and routinise the strategies for learning and memorising during the lesson and for the home study.

To summarise, the purpose of this section was to discuss how the catechetical tasks of recitation, practice and study as stimuli for memory can assist catechists and the catechised in fulfilling their objectives--teaching, learning and remembering. Learning and remembering provoked the need to include consideration of the recent history and current use of the learning strategy of memorisation in catechesis, religious education and secular academic subjects. From a review of selected articles from the secular, catechetical and religious education literature, the notion emerges that there is a need to teach students about the benefits and strategies of memorisation. Examples of a homework memorisation exercise and an assignment notebook approach are described. Catechists and religious educators are exhorted to lean how to teach their students to recite, practise, study and memorise. It is noteworthy that as recently as in the Spring of 1997 we find the following statement:

> Yet we find in the Church at present an intense suspicion of any catechetical method that makes much of memorisation. We need to understand the reasons for this so as to be able to restore to our catechesis an appreciation for the irreplaceable role of the memory (Willey, 1997, p. 4).

It can also be said with some confidence that recitation, practice and study as stimuli for memory may result in memorisation manifested via fluency and/or automaticity as described above in the section on the liturgy and worship.

Summary

This chapter reviewed selected catechetical tasks as stimuli for memory from a variety of such tasks. They were reviewed in the order of the author's view of the significance of the tasks and their relationship to one another. The catechetical tasks reviewed included liturgy and worship, modeling, personal relationship, verbal instruction or explanation, listening attentively, and recitation, practice and study. In many instances, the catechetical tasks seem similar, to overlap, and to be occurring simultaneously. The content presented via the selected catechetical tasks is intended to be retained or learned and to be retrievable from memory at a future occasion. As a practical matter it is recognised that, 'A technique is of value in catechesis only to the extent that it serves the faith that is to be transmitted and learned; otherwise it is of no value' (CT 58).

3. SELECTED ASPECTS Of MEMORY WITH CATECHESIS IN MIND

Prologue

Saint Augustine wrote his *Confessions* somewhere about 397 through 400 AD. In Book 10 of the *Confessions* he engages in a serious reflection on memory:

> But where within my memory do you abide, Lord, where do you abide? What kind of abode have you fashioned for yourself? What manner of sanctuary have you built for yourself? ... Why then do I seek in what place you dwell therein, as if forsooth there were places there? Truly, you dwell in my memory, since I have remembered you from the time I learned of you, and I find you there when I call you to mind (Augustine, 1960, pp. 253-254).

This last sentence of Saint Augustine describes one of the goals of catechesis. It is that the Lord would dwell in the memories of the catechised and that they would find Him there when they call Him to mind. Saint Augustine's wonderful queries about where in memory the Lord abides have come down through the ages to the present. A recent and comprehensive inquiry into questions that are similar to those posed by Saint Augustine but from an alleged scientific perspective is reported by Persinger (1987) in his book, *Neuropsychological Bases of God Beliefs*. A valid critique of the result of Persinger's inquiry is that '... he too often falls into the error of believing he has explained a religious phenomenon by identifying its anatomical correlate' (McNamara, 1995). It must be admitted that contemporary neuroscientists have had some success in their quest to discover the what, where, when and how of memory. But there have been limits to their success as may be inferred from Tulving's (1995a) reminder that, as yet,'[t]here is no place in the brain that one could point at and say, Here is memory' (p. 751).

The discussions of the selected aspects of memory in this paper ought be thought of as notions in progress because the emergence of more and more technologically sophisticated measures are constantly refining our understanding and explanations of how memory functions. Here and there, the discussion refers to parts of the brain where neuroscientists believe certain of the aspects of memory and function are housed. Overall, the presentation intentionally avoids focus on this information which a reader can easily follow-up on via the references. The selected aspects of memory presented are, as labeled by neuroscientists, working, procedural, semantic, episodic, automatic and emotional memories.

3.1. Working Memory

This description and discussion of working memory will only consider aspects that are relevant to the tasks of catechesis. It has been observed that, '[i]f you ask 100 cognitive psychologists what working memory is, you will get 100 different answers' (Kimberg, D'Esposito, & Farah, 1997). The notion of the working memory aspect of memory presented in this section is based on the concept that has emerged from the research of Alan Baddeley and Graham Hitch (Baddeley, 1986, 1995). Logie (1999) presents the most current summary of the elements of working memory that include: (1) a central executive as '... a co-ordinating executive function which enables the conscious manipulation of information ...'; (2) the visual cache which '... enables temporary storage of visual appearance of objects and scenes ...'; and (3) a phonological loop that provides for the '... temporary retention of verbal material in terms of sounds ...' (p. 174). Whilst an individual is conscious and awake, s/he is subject to constant sensory perceptual input that ends up in the working memory. The sensory perceptual data is said to be discerned, recognised or understood with support from the knowledge base that has accumulated in a person's long-term memory. Fortunately, the working memory is a limited capacity system that only retains recently experienced sensory perceptual input or data that the person has deliberately decided to pay attention to. Deliberately deciding to give one's attention to some sensory perceptual data with a purpose or intention of doing something with it is the working part of working memory. Describing this working part of working memory, Logie (1999) writes:

> The contents of working memory can be combined with stored knowledge and manipulated, interpreted and recombined to develop new knowledge, assist learning, form goals, and support interaction with the physical environment (p. 175).

Working memory applied in this way is what we usually refer to as 'thinking' (cf. LeDoux, 1996).

It will be useful to review some other ideas about working memory to help us better understand its role in our daily lives. Working memory is where our conscious awareness from moment to moment resides. Historically, what is referred to as working memory is what William James designated as short-term memory that included, '... consciousness or awareness ... . To put it another way, what one is aware of at any given moment is the content of his or her short-term memory' (Thompson, 1988, p. 64). It might not be unreasonable to regard working memory as memory in the service of all the other aspects of

memory and learning. As you are reading this paragraph you are engaging your working memory. All of our transactions with others and with the environment occur at the site of our working memory. Recent research has identified that the executive function of working memory allows an individual to keep a new thought or idea in mind and to modify one's routine actions in the light of the new information to conform to new expectations of certain somewhat complicated tasks (Diamond, Prevor, Callender, & Druin, 1997). Diamond et al. (1997) offer the very timely example of the need to contend with changed circumstances such as our recent transition from the 20th to the 21st century that has meant keeping in mind the need to write 2000 instead of 1999.

We are able to understand the real value of working memory when we are confronted with the need to keep several notions in mind and apply them to information that we are retrieving from our own memory store. An appropriate example is one's examination of conscience in preparation for the sacrament of reconciliation. In order to complete a proper examination of conscience a person must remember the three conditions that constitute a mortal sin: (1) grave matter, (2) full knowledge, and (3) complete consent (CCC 1857; cf. RP 31). To begin to carry out the examination of conscience, the individual must focus attention to remembering and bringing into conscious awareness the commandments that are the basis of grave matter such as the admonitions against killing, committing adultery, bearing false witness, defrauding and to honor parents (CCC 1858; cf. 1756). With the commandments in conscious awareness, the individual recalls acts and thoughts since the last confession and evaluates them in the light of the commandments. Examination of conscience is clearly a task for working memory as it is described above. In depending on our working memory to identify any mortal sins that have been committed it needs, '... knowledge of the sinful character of the act, of its opposition to God's law. It also implies a consent sufficiently deliberate to be a personal choice' (CCC 1859). The result of the examination of conscience will be a determination as to whether one has or has not committed mortal sin that needs contrite submission to the sacrament of penance for absolution.

The effectiveness of submission to the task of the examination of conscience is often influenced in great measure by one's appreciation and familiarity with the influence that it has on our dispositions of conversion and contrition. In this regard, Logie (1999) describes,

> ... a long-term working memory that accounts for the ease with which we can access highly familiar stored knowledge. The

> greater our expertise in a particular domain, the greater is our working memory capacity for information in that domain (p. 177).

A life-long devotion to and participation in the sacrament of reconciliation is the basis of a Catholic's long-term working memory capacity for it. There is also the overarching disposition of living out one's commitment to the Catholic responses to questions such as: 'What is my true fulfillment?' 'How do I need to mature in myself in order to reach my true end?' and 'How should I behave toward others who are called like me, to find their true fulfillment?' (Willey, 1996, pp. 42-43; cf. 1997). A Catholic's true fulfillment is God (CCC 27, 1718-1724). To reach one's true fulfillment and true end requires cultivation of the expertise in doing what God wants done in thought and action. It means enthusiastically learning and conforming one's behaviour to the commandments, virtues and beatitudes. Finally, when the last question is answered there is the ultimate in perspective-taking in one's recognition that others are engaged in seeking their true fulfillment and end in the same way that we are. Humankind needs the sophisticated working memory to keep this perspective of others in mind as social and other transactions are pursued with them.

The discussion above has focused on working memory as a mature person would apply it to the task of preparing for the sacrament of reconciliation. We grow in our working memory capacity just the way we grow in our physical, language, calculation and social skills from childhood through to maturity in adulthood. Parents, clergy, teachers, and catechists will find it helpful to acquaint themselves with what is known about how working memory grows. The implications of what is known about the limitations of growing working memory mean that we should instruct on no more than three topics with children ages 6 to 9, and up to 7 items with youngsters 10 years and older (Jensen, 1998). Since the example of the application of working memory was the sacrament of reconciliation or penance, it is worth the observation that what has been learned about the developmentally limiting aspects of children's short-term working memory has helped in understanding how first penance for children became so complicated an issue for the Church (cf. Grigassy, 1990).

Finally, an indication of the usefulness of the concept of working memory in education is seen in the fact that it is referred to in 311 items cited in the database of the Educational Resources Information Center (ERIC) for the years from 1966 through to the 11 January 2000. Furthermore, working memory underlies all of the other aspects of memory

that are presented in the following sections. That is, the aspects of memory have been developed and maintained for the most part at the site of working memory.

3.2. Procedural Memory

This section reviews the procedural aspect of memory. According to Tulving (1995b), procedural memory is the initial aspect of memory that develops in humans and '... is memory of how to do something, including various mental procedures and psychomotor skills' (Martin, 1993, p. 170). Familiarity with Piaget's (Piaget & Inhelder, 1969) description of the sensorimotor phase of infancy through early childhood helps to understand procedural memory which is also referred to, '... as motor memory, body learning, or habit memory' (Jensen, 1998, p.107). Skills such as walking, running, climbing stairs, or swimming that are mastered by a child during this time are all recorded in the procedural memory. It is also important to be reminded that throughout much of our life it is at the site of our working memory that the behaviours modeled by others or the verbal or semantic information and/or instruction received will be proceduralised.

Practising at climbing stairs by a two- to three-year-old child is a good example of a procedural memory task. Children undertake this activity because they see others in their environment climbing stairs. Whilst learning to climb stairs, children often succeed in getting to the top, but are usually not able to climb back down. They call or cry, seeking the assistance of an adult to get back to the bottom so that they can climb back up again. Some parents find this exasperating and do not understand why the child climbs up the stairs again only to cry for help to get down. This is a good example of a child's engagement in mastery of bodily motor skills via the environment. By the time most children are seen at school they have amassed a hefty store of procedural memories. It is a combination of procedural and automatic memory (see section 3.5. Automatic Memory) that provides the forum for the easy flow of our responses during the liturgy of the Mass. Procedural memory enables us to do two activities at the same time such as making the sign of the cross and reciting, 'In the name of Father, the Son and Holy Spirit' as we do it.

Procedural memory would also have a role to play in the preparation for the sacrament of reconciliation discussed above in working memory. Usually, preparation for the sacrament of reconciliation is made at church and completed in a confessional box. There are

particular bodily postures that are assumed to prepare for and to receive the sacrament such as kneeling and/or sitting in church and kneeling in the confessional box.

Tulving (1985, 1995b) describes procedural memory as being able to respond efficiently to one's bodily sensations, the environment and complex physical and/or verbal task demands without having to think about them. It is also important to be aware of the fact that procedural and automatic memories (see section 3.5. Automatic Memory) have in common that they are both stored in the cerebellum that is tucked up under the back of the brain (Sprenger, 1999). That procedural memory has received minimal attention in secular educational application is seen in the fact that it was found to have been referred to in only 10 items cited in the Educational Resources Information Center (ERIC) database for the years 1966 through to 11 January 2000.

The explanations of the procedural memory, as well as the semantic and episodic aspects of memory presented in the next two sections are derived from Tulving's (1985, 1993, 1995b) theory. Tulving (1985) maintains that they are hierarchically related to one another in that '[t]he system at the lowest level ..., procedural memory, contains semantic memory as its single specialised subsystem, and semantic memory, in turn contains episodic memory as its single specialised subsystem' (p. 387). The hierarchical condition results in a dependent relationship between procedural and semantic memories and procedural and semantic memories with episodic memory. In fact, only procedural memory can function without the others.

3.3. Semantic Memory

The semantic memory aspect of memory enables us to retain and internally represent '... information learned from words' ... '... textbooks and lectures' (Sprenger, 1999, p. 50). According to the dictionary (Morris, 1975), semantic is defined as '[p]ertaining to meaning, especially meaning in language' (p. 1177). As was noted above, semantic memory is a 'specialised subsytem' of procedural memory. From that perspective it emerges as a form of behaviour. It is not complicated to understand how semantic memory emerges from procedural memory. Once again, some familiarity with Piaget's (Piaget & Inhelder, 1969) description of the sensorimotor phase of infancy through early childhood that helps to understand the development of procedural memory also aids in understanding the emergence of semantic memory. At the same time that a child is beginning to crawl, walk, run, or climb,

its parents, siblings and relatives begin labeling or naming these behaviours for them. This verbal feedback encourages the child's practise of the developing motor skills whilst at the same time providing verbal stimuli of an initial repertoire for the semantic memory.

It is the beginning of that wonderful skill of language that allows the child and others to reflect in words on prior or future actions. Developmentally, it is interesting that the labels and words both evoke and limit behaviours that have their origins in procedural memory. There are some interesting examples in research with children that demonstrate how labels or names and words emerge as expressions of and influences on children's behaviour. For example, the observation has been made that a continuity appears to exist between early naming behaviour and children's later notions of names (Williams, 1976). Children as young as 17 months of age differentiated in their behaviour the relativity of person-proper names and the specificity of the common names of classes (Katz, Baker & Macnamara, 1974). Later, at age 7, children manifest arbitrary notions in their thinking about person-proper names that were the very names toward which they had first behaved arbitrarily when they were much younger. This observation supports Piaget's (1974) notion that behaviour may occur long before a child is aware of it, able to think about it or verbalise it.

Another example of the influence of verbal labeling or naming was seen amongst 18- to 22-month-old children who were reported to have spent more time playing with toys that were verbally labeled or named than with those that were not (Roberts & Black, 1972). Both of these examples demonstrate the interactive influence of behaviour on verbalisation and vice versa. It is also noteworthy that they tend to point to the ascendance of the influence of the verbal over behaviour or one might say the semantic over the procedural.

In order to get a better perspective of what this means, it will be helpful to return to the task of preparing for the sacrament of reconciliation discussed above in working memory. When the individual attends to remembering and bringing into conscious awareness the commandments that are the basis of the grave matter of mortal sin such as the admonitions against killing, committing adultery, bearing false witness, defrauding and to honor parents (CCC 1858; cf. 1756), there is an activation of semantic memory. This is because the commandments state in words the actions that are to have been avoided since our last participation in the sacrament of reconciliation. The ease with which a Catholic is able to recollect the commandments will be influenced in some measure by life-long devotion to and participation in the sacrament of reconciliation. It has been recognised that this level of

participation may increase the long-term working memory capacity and some automaticity of retrieval of the commandments. When one actually participates in the confession of sins, the report will be given by one in a semantic format that is the only way that we have of, '... representing states of the world that are not perceptually present' (Tulving, 1985, p. 387).

Semantic memory has a somewhat more robust usage by secular educators than procedural memory as is seen in the fact that it is referred to in 153 items cited in the Educational Resources Information Center (ERIC) database for the years 1966 through to 11 January 2000. Episodic memory is discussed in the section that follows. What especially differentiates the procedural and semantic aspects of memory from episodic memory is that they are '... ahistorical, depersonalised, and generally similar in content to the information they represent (Dretske, 1982)' (Martin, 1993, p. 175). Whereas, the episodic aspect of memory is especially unique because it is related to the place and even the time when a person experienced stimuli, learned something or established a memory (cf. Sprenger, 1999).

3.4. Episodic Memory

The episodic memory aspect of memory '... enables people to remember past happenings. ... For a rememberer to remember something means that he or she is ... aware of a past happening in which he or she has participated' (Tulving, 1993, pp. 69-70). Episodic memory is the memory that people use when they are asked, for example, to recall where they were when they heard the news of the death of Princess Diana. In their anecdotes people recount when they learned of the accident and then later the death of Princess Diana. What is striking about the anecdotes is the detail that they contain about where an individual was and what they were doing at the time.

This episodic aspect of memory is also an individual's memory of his or her own acts and behaviour through time. Our understanding of episodic memory will be advanced by relating it to the task of preparing for the sacrament of reconciliation as presented in the sections above on the working, procedural and semantic aspects of memory. First, an individual brings into conscious awareness the commandments that are the basis of the grave matter of mortal sin. With the commandments in mind, the individual recalls acts and thoughts since the last confession. These acts and thought will be retrieved from one's episodic memory and evaluated in the light of the commandments. The result of the examination of conscience will be to determine whether one has or has not committed mortal

sin that needs contrite submission to the sacrament of penance for absolution. It is significant that when we seek to recall our sinfulness it is defined by rules derived from our semantic memory to evaluate behaviour retained primarily in our episodic memory.

Episodic memory's usefulness to contemporary educators is seen in the fact that it is referred to in 70 items cited in the Educational Resources Information Center (ERIC) database for the years 1966 through to 11 January 2000. The topic of the next section is the automatic memory aspect of memory. It is a brief presentation because it is quite closely related to the procedural aspect of memory. According to the literature, the difference between them is that automatic memory is concerned with the attainment of language and rote learning, whereas procedural memory is the basis of psychomotor skills.

3.5. Automatic Memory

The automatic aspect of memory is related to the notion of automaticity that was defined in Chapter 2 as mental processes of memory that are or become available '... without intention or conscious awareness ...' (Ashcraft, 1989, p. 693). Automaticity is attained by purposefully striving to master a skill or knowledge or it may occur unintentionally by choosing to repeatedly respond in the same manner in certain contexts (Bargh & Chartrand, 1999). Terms used in the past to describe behaviour that is characterised as automatic were 'habit', 'instinct', and even 'virtue' (cf. CCC 1735).

It is generally accepted that automaticity is very much identified with procedural memory. This is due to the fact that when humans have mastered certain procedures or motor activities, they are often at such a level of efficiency that the individual no longer needs to think about what s/he is doing. In an older youngster, automatic memory stores the ability to decode reading material and rote learning such as addition and multiplication tables, poems, prayers, songs and music. Jensen (1998) refers to automatic memory as '... our reflexive retrieval system ... full of instant associations' (p. 108). Automatic memory is an aspect of memory that is often utilised in conjunction with other aspects of memory. Automatic memory is seen in one's '... ability to read—but not to comprehend' (Sprenger, 1999, p. 53) whilst the comprehension is happening simultaneously via the semantic memory at the site of one's working memory.

The understanding of automatic memory is a rather recent development (Sprenger, 1999). Therefore, automatic memory was only found to be referred to in 4 items cited in the

Educational Resources Information Center (ERIC) database for the years 1966 through the 11 January 2000.

The section that follows introduces the emotional aspect of memory. It is appropriate that it follow automatic memory because there are times when emotional memory will be seen to be manifested with some automaticity.

3.6. Emotional Memory

The origins of emotional memories are such that human beings are not often aware of the impact of their development. In the anecdote that follows, an experience in the life of a three-year-old child is presented to demonstrate the precariousness of the development of emotional memories. Elizabeth and her Aunt Joan had been feeding the ducks at the edge of a pond in a park. When the bread and corn that they had been tossing to the ducks were gone, Elizabeth turned her attention to a group of geese that were shyly approaching the flock of bread- and corn-satiated ducks. As a young child will be, Elizabeth was curious about the 'big ducks' that were as tall as she was. She walked slowly toward them and they just milled about honking. Just as she was within a few yards of the gaggle, a larger gander strode forward toward Elizabeth honking ominously and with his neck and wings outstretched. Elizabeth was startled and on the verge of tears from fear. Her vigilant aunt realized what was occurring and moved quietly to Elizabeth and picked her up and said, 'Oh, look the goose wants to say hello to us'. Almost immediately, Elizabeth was calm and comforted by the brief interaction she and her aunt were having with the geese. So what could have been a quite traumatic event for a little girl was transformed into the pleasant memory of an encounter with some geese on a Spring day in the park. Elizabeth's aunt who shared this story said that she intervened in the way she did so that Elizabeth would not have the memory of an unpleasant experience and fear of the first geese she had ever encountered.

What would have happened if Elizabeth's aunt had not intervened? Elizabeth might have had a dreadful encounter with a honking, pecking, wing-slapping gander that would leave her with horrific and fearful memories of what geese can inflict on a three-year-old. The experts who study the impact of such experiences on the brain and emotions tell us that there are explicit and implicit emotional memories after such experiences (LeDoux, 1996). Explicit emotional memories are those that an individual can recall and describe such as

Elizabeth's recounting what might have been her first fearful experience with geese. An implicit memory is the individual's awareness of the physical sensations that the memory evokes such as, for example, feelings of anxiety and/or fear, muscle tightening, and perspiration.

Usually, the recall and discussion of such an event is regarded as being from one's explicit memory and it is often accompanied by the effects of the implicit memory that may cause one to re-experience some or all of the physical symptoms of the fear or other emotions that might have been aroused during the event. Often when such an event happens to someone as young as Elizabeth, there will be no explicit memory of it. The only memory may be implicit. An example of the workings of such a memory is that later when Elizabeth is older and hears the honking of geese, she may experience some or all of the physical symptoms of the fear aroused in an event about which she has no clear memory. Such an experience suggests that an automatic aspect of emotional memory appears to be present.

Actually, Elizabeth did not have a dreadful encounter with the geese. Her vigilant and thoughtful aunt transformed what might have had all the unpleasantness described above into a learning opportunity that left Elizabeth with a positive memory of her first encounter with the geese. It is important that parents, teachers, or catechists strive to help others to avoid situations that might result in the creation of negative and/or fearful emotional memories. Even what we say to others can evoke responses that might be catastrophic (Rozanski et al., 1988).

An indication of the neglect of the concept of emotional memory's application in education is seen in the fact that it has been referred to in only 13 items cited in the Educational Resources Information Center (ERIC) database for the years 1966 through 2000 as of 11th of January 2000.

Summary

The selected aspects of memory discussed in this chapter included working, procedural, semantic, episodic, automatic and emotional memories. The elements of working memory are a central executive where data and information can be manipulated, a visual cache for temporarily storing thing that have been seen, and a phonological loop for retaining what has been heard (Logie, 1999). Whilst conscious and awake, we are all subject to constant sensory perceptual input that ends up in the working memory where it is recognised

or understood with support from the knowledge base that has accumulated in the long-term memory. Working memory is where our conscious awareness from moment to moment resides and all our transactions with others and with the environment occur. It is not unreasonable to regard working memory as memory in the service of all the other aspects of memory and learning.

The descriptions of the procedural, semantic and episodic aspects of memory presented are derived from Tulving (1985, 1993, 1995b). He maintains that there is a hierarchically dependent relationship between procedural memory and semantic memory and between procedural and semantic memories with episodic memory. It is only procedural memory that can function without the others. Skills such as walking, running, climbing stairs, swimming, riding a bicycle, and driving a car are all recorded in the procedural memory. Semantic memory enables us to remember and think about what we have learned from the spoken or printed word. The episodic aspect of memory is an individual's memory of his or her own experiences, acts and behaviour through time.

Automatic memory manifests itself as a result of an individual's purposeful striving to master a skill or knowledge or unintentionally choosing to repeatedly respond in the same manner in certain contexts (Bargh & Chartrand, 1999). The ability to decode reading material and rote learning such as addition and multiplication tables, poems, prayers, songs and music are stored in the automatic memory. Automatic memory is identified with procedural memory due to the fact that both are manifested at such levels of efficiency that the individual no longer needs to think about what s/he is doing.

Emotional memories are explicit or implicit. Explicit emotional memories are those that can be recalled and described. Emotional memories are implicit when the individual experiences awareness of the physical sensations that the memory evokes such as, for example, feelings of anxiety and/or fear, muscle tightening, and perspiration but is unable to access the reason for the feelings.

The chapter that follows will take up the issue of the usefulness to cathechists of knowledge about memory in planning and carrying out the tasks of catechesis.

4. CATECHESIS WITH SELECTED ASPECTS OF MEMORY IN MIND

Prologue

It is noteworthy that the role of human memory in the expressions of our faith has been made reference to in several very significant magisterial and papal communications (e.g., CT 55; DD 16-17; GDC 65, 107, 141, 144, 154, 262; SMP 4; MR). Writers of materials on spiritual development also refer to the importance of taking charge of one's memory and imagination. For example, Clemens (1960) recommends that, '[m]emory must be stored with the right kind of experiences, and it must be trained to be at the service of the intellect' (p. 30). For those who take his proposal seriously, I have paraphrased some of his particular examen questions regarding memory specifically for the teacher/catechist:

> Do I encourage students to make continual efforts at memory improvement? Do I teach the necessity of storing the memory with the right kind of experiences? Do I teach students to unite their acts of memory and imagination with the Mysteries of Christ and Mary through prayer (Clemens, 1960, p. 31)?

Responding to just one of these examen questions is a good way to begin implementing a catechesis with selected aspect of memory in mind. Many of those being catechised will benefit from the support and guidance a catechist can provide about memory improvement, storing the right kinds of experiences and prayer. It seems that the role of memory is receiving recognition everywhere. In this regard, Archbishop Nichols (2000, March 4) in an address to the Catholic Association of Schools and Colleges stated that:

> ... [L]earning ... requires attentiveness of the mind in a systematic and critical manner; ... good habits, fostered within a secure framework or pattern of daily routines; learning requires memory and understanding too.

The objective of this chapter is to explicate the usefulness and the application of knowledge about the aspects of memory for and to catechesis, and an introduction to some informal methods for evaluating catechesis.

4.1. The Usefulness of Knowledge About Aspects of Memory For Catechesis

This section is a reflection on the usefulness of the knowledge about the selected aspects of memory discussed in this dissertation. To begin, it is appropriate to assert that catechists need to understand that knowing about memory can assist them in planning for a more effective catechesis. Whether a catechist intends it or not, one or more of the aspects

of memory, working, procedural, semantic, episodic, automatic, or emotional, reviewed above in Chapter 3, will be activated depending upon the stimuli used to present the lesson and its context. Currently, there are secular educators who propose that teachers, and this would include catechists, are able to learn enough about the selected aspects of memory to understand how to prepare a lesson or parts of lessons that can intentionally be directed toward one or more of the aspects of memory (Jensen, 1998; Martin, 1993; Sprenger, 1999). This means that a catechist may want to include strategies to target aspects of memory in lesson planning. To begin, a catechist might only want to prepare a lesson directed toward an aspect of memory that is well understood.

Working memory. Catechists can assume that catechesis is occurring at the site of each student's working memory because we have Logie's (1999) assurance that '... it is difficult to think of many human activities that would not involve working memory at some level' (p. 177). A very useful notion about working memory that was mentioned in the last chapter is that, '[t]he greater our expertise in a particular domain, the greater is our working memory capacity for information in that domain' (Logie, 1999, p. 177). This notion itself suggests that one of the ultimate aims of catechesis ought to be to achieve a 'catechisation' of the long-term working memory of each student to at least a pedestrian level of expertise within the limitations prescribed by age, education and experience. In the document, *Religious Education: Curriculum Directory for Catholic Schools*, there is a statement that provides some guidance as to what is meant by a pedestrian level of expertise of a catechised long-term working memory:

> The outcome of religious education is religiously literate young people who have the knowledge, understanding and skills--appropriate to their age and capacity--to think spiritually, ethically and theologically, and who are aware of the demands of religious commitment in everyday life (RECD p. 10).

It is knowledge and understanding that are especially important in the catechisation of long-term working memory. Kuhn (2000) makes the observation that: 'Memory, ... becomes a function of both knowledge and understanding' (p. 23). Expertise in this context also involves living a life of faith and commitment demonstrated behaviourally by such practises as regular participation in the liturgy of the Mass and the sacraments, prayer, and support of the Church via donations or personal service.

Procedural memory. The striking thing about procedural memory, whose focus is the body's motor and physical skills, is that it may be the earliest aspect of memory to respond in a unique way to catechesis (Jensen, 1998). Truly, even before young children can recite their prayers, they attempt to and are often able to imitate adult worshipers' actions of bowing and genuflecting, their postures of kneeling, standing and sitting, and their gestures of folded hands and bowed heads observed during the liturgy of the Mass (cf. Vereecke, 1990). It may not be farfetched to speak of a postural or gestural component of catechesis (cf. PB 33, 34). Such a component ought to include instruction on the how, the why and the attitudes and meanings of the actions, postures and gestures of prayer, the liturgy and the sacraments (cf., Krosnicki, 1990; Vereecke, 1990; Wilkins, 1999a). It is recommended that this instruction be renewed from time to time throughout the life-stages of catechesis. The postural and gestural component of catechesis as stimuli of procedural memory will seem to be easily mastered, retained and accessed (Jensen, 1998). This confirms the comment of Pinkus (1998) that:

> Since the body is the repository of memory--without which there would be no possibility of liturgy--and therefore of affection and motivation, only through the body does rite express and effect the transformation of the person ... (pp. 181-182).

Catechists will find that resources on actions, postures and gestures are available primarily in writings on the liturgy (e.g., Huck & Chinchar, 1998; Krosnicki, 1990; Vereecke, 1990; Wilkins, 1999a).

Finally, from a pedagogical perspective, methods to activate the procedural aspect of memory are practice or repetition. Physical movement can also be incorporated into catechesis when the focus is on other aspects of memory An example is combining movement with verbally-based learning (Sprenger, 1999). In thinking about procedural memory it is worthwhile to ponder a quote that is attributed to St. Francis of Assisi: 'Preach often and, if necessary, use words' (McCormack, 2000, p. 2).

Semantic memory. It is generally recognised that semantic memory is the most used aspect by teachers and catechists. Semantic memory is activated by verbal stimuli and the expected outcomes are often stated as 'knowledge and understanding' (e.g., RECD). In fact, it is toward semantic memory that three out of six of the selected catechetical tasks as stimuli for memory discussed above in Chapter 2 were directed. These tasks included 2.4. verbal instruction or explanation, 2.5. listening attentively and 2.6. recitation, practice and study. Sprenger (1999) reminds us that semantic memory, '...is ... difficult ... to use for learning because it takes several repetitions of the learning to cement it into the pathway. It has to be

stimulated by associations, comparisons, and similarities. In short, semantic memory can fail us in many ways' (p. 51). Teaching verbal material requires thoughtful preparation by catechists and teachers. In this regard, some guidelines were suggested in Chapter 2, section 2.4. verbal instruction or explanation.

One approach to help catechumens to remember their lessons better involves combining verbal instruction and tasks directed toward semantic memory with contexts and stimuli that will activate one or more of the other aspects of memory (Sprenger, 1999). An example of this is seen in teaching youngsters to recite the Nicene Creed. It is always recited standing, so it makes sense to have the students stand as they recite it. An even greater impact occurs when the Creed is recited standing in church. This lesson has combined the verbal task directed at semantic memory with standing that activates procedural memory in the church setting that activates episodic memory. It is true that we are not always able to utilise so many aspects of memory, but it is good to know that we can and that it might be helpful.

Episodic memory. This aspect of memory is activated by place, context and the artifacts within an environment. In one sense there is something episodic about all learning because '[y]ou can't not be "somewhere" when you learn. All learning provides contextual cues' (Jensen, 1998, p. 107). Amongst Sprenger's (1999) strategies for activating episodic memory are '[b]ulletin boards ..., [c]hanging the arrangement of the classroom before each unit ..., [f]ield trips ...,[t]eaching from a specific area of the room ...' (pp. 73-74). Implementing approaches to activate episodic memory requires careful and considerable long-range planning on the part of the catechist or teacher. It means thoughtfully matching the instructional content to each episodic event to obtain the best possible learning and retention. One could assume that the greatest possible impact could be gleaned by implementing all or most of the strategies suggested above during the teaching of a section or a unit. Sprenger (1999) also suggests using '... one colour of paper for all the handouts related to a unit' (p. 74). Sound familiar! Brings to mind the Church's seasonal liturgical colours of green throughout the year, purple for lent and advent, and white for Christmas and Easter. The Church, whether knowingly or not, is employing episodic strategies in the liturgy.

Lastly, one researcher has proposed that, '... it would be important to determine if more numerous, vivid, and specific pupil memories for classroom events really do correlate significantly with pupils' scores on quizzes designed to assess increments in their procedural and declarative [semantic] knowledge of lesson content ... (Martin, 1993, p. 180). Basically, the researcher is suggesting that it is important to know whether activating episodic memory really makes a difference. One practical way of investigating the benefit of activating episodic memory would be to create assessments with and without reminders of the episodic aspects of the various lessons. The results of the assessments under both conditions can be compared to determine if the differences in the retrieval of lessons are the same, better or worse.

Automatic memory. The automatic aspect of memory tends to function very much like the procedural aspect except that the content is generally semantic and musical. There are some of us who would identify automaticity with memorisation. This is quite appropriate because it is often via memorisation that the fluency and 'automaticisation' of what is learned is attained. If it is prayers or creeds that are recited or performed often during the liturgy of the Mass they are continuously reinforced and further automaticised. Sprenger (1999) makes the observation that '[m]usic is one of the most powerful means of enhancing automatic memory' (p. 75).

Including music in our catechesis is an excellent way to provide a strategy that will facilitate retention and easy retrieval of lesson material. A catechist can facilitate the automaticisation of lessons by review and repetition during class, by teaching students how to recite, practice and memorise on their own, and by assigning material to be memorised for class (cf. section 2.6., p. above).

Emotional memory. Catechists and teachers need to give considerable reflection to the emotional aspect of memory because '[l]earning is strongly influenced by emotion' (Wolfe & Brandt, 1998, p. 13). We are often not as sensitive as we might be about how our instructional transactions affect students emotionally. A negative emotional memory activated in the context of catechesis would be quite unfortunate and might have an enduring influence on an individual (cf. LeDoux, 1996). In this regard, Sprenger (1999) notes that: '*Emotional memory takes precedence over any other kind of memory.* The brain always gives priority to emotions' (p. 54). This information suggests that catechists ought to have as an aim to foster the use of approaches that result in positive emotions in the context of catechesis.

According to Sprenger (1999), positive emotions can be activated by music, celebrations, and role-playing, all of which are made use of during some phase of catechesis. Catechesis is also fortunate to be linked to the feasts and celebrations of the Church such as Christmas, Easter, Pentecost and the Sundays. These celebrations and feasts activate significant positive emotions throughout our lives and also remind us of our catechesis about their significance. One other source of positive emotions is personal relationship which is one of the selected tasks of catechesis presented above in Chapter 2. It is important to keep in mind that the catechetical task of personal relationship is at the service of catechesis and will play a part in every lesson although it is not likely to be found written as an objective in any lesson plan.

This section focused on describing the stimuli that activate the selected aspects of memory and related these to the selected tasks of catechesis. Finally, when catechetical lessons are directed at one or more aspects of memory, the assessment tasks of the lessons should include reminders of the aspect of memory toward which the lesson was directed. Reference was made to this in the discussion above on episodic memory.

4.2. Applying Knowledge of the Aspects of Memory To Catechesis

Robert Orsi in his research into the material world of Catholic childhood makes the observation that:

> Catholicism generally is a materialised faith, a religious culture of many material possibilities—possibilities of the senses—and all of these are offered to Catholic children. Catholic children live in a world of many smells, sounds, and tastes—bodily sensations available to them in the domain of religion (Hudnut-Beumler & Sack, 2000).

The purpose of this section of the chapter is to illustrate some practical applications of what has been presented about the aspects of memory and the tasks of catechesis. To do this, selected articles and features intended as resources for catechetical pedagogy from *The Sower: The Journal for Religious Educators In School and Parish* are categorised as to the primary aspect of memory that they will likely activate and the catechetical task being addressed.

Amongst the useful contributions featured in *The Sower* are the instructions, guidance and centerfold illustrations on a variety of catechetical topics by Margaret Perryman-Delfanne. I have categorised these articles as resources for bulletin boards. Examples of topics she has covered include the liturgical year (Delfanne, 1996), models of faith (Delfanne,

1997a), images of Our Lady (Delfanne, 1997b), animals as symbols of virtue or vice (Delfanne, 1997c), the Holy Spirit (Delfanne, 1998a), picturing hope (Delfanne, 1998b), the four evangelists (Delfanne, 1998c), God the Father and Creator (Delfanne, 1999a), symbols of love (Delfanne, 1999b), Judaism (Perryman-Delfanne, 1999), and the three heavens (Perryman-Delfanne, 2000). Although the centerfold illustrations are not necessarily proposed as bulletin boards, they are the basis of what one could easily use to develop impressive bulletin board displays on the topics of lessons. Bulletin boards are intended to activate episodic memory and when used in conjunction with instructional catechesis, may have a much greater impact on the meaning, learning and retention of the lesson. The articles include instructions and guidance for using the centerfold material as support for the topic of the catechesis.

An effective use of the articles from *The Sower* is to use two or more as resources for lessons. For example, one could prepare a bulletin board using the 'Images of Our Lady' (Delfanne, 1997b) that presents the interpretation of nine representations of the Blessed Virgin in icons. With this bulletin board as a context, a catechist could then introduce children '... to Mary as a model of prayer' (Yates, 1997, p. 14). In the lesson about prayer, the children are guided through a format for praying with a passage of scripture. The tasks of catechesis addressed in this lesson are modeling, verbal instruction and listening attentively. This lesson seems directed to activate the episodic (place/context), semantic (content of scripture), and procedural (format to follow in praying) aspects of memory.

Stories are reported to provide stimuli that is inclusive of a variety of the aspects of memory:

> Besides the semantic information, emotional memory can be tapped through the conflict or plot of the story. Episodic memory may be reached through the location in which you tell the story and how you dress (Sprenger, 1999, pp. 76-77).

Using stories in catechetical pedagogy has been an approach that has been discussed from time to time in *The Sower* (cf. Kilpatrick, 1997; Ward, 1997; Willey, 1998). For example, Kilpatrick (1997) recommends the traditional approach to moral education referred to as '... a morality of character. It gives us good people as models and asks us to act like them; it provides us with stories to live by' (p. 7). Life stories are the basis of these moral lessons. Another example was an analysis by Willey (1998) of the usefulness of fairy tales as a source of hope for young children. The tasks of catechesis fulfilled through stories are modeling,

verbal instruction, listening attentively, and, depending upon who is sharing the story, personal relationship.

Some other examples of activities that have been proposed by authors are including local saints in catechesis (de Murville, 2000), using stained glass windows for teaching (Flint, 1996), using illustrations in communicating (Conrad, 1997, 1999, 2000), making pilgrimage (de Murville 2000; Farey, 1999; Hanlon, 1996), questioning in religious education class (Healy, 1996), and religious devotional activities at home (McLoughlin, 1996; Topley, 1996). These activities have the potential to activate the episodic, semantic, and, if there is hymn singing, the automatic aspects of memory.

Finally, whether we have been aware of it or not, much of our catechetical methodology has been in accord with what has been reviewed about how memory seems to work. Many of our catechetical approaches include strategies (i.e., celebrations, pilgrimages, music, bulletin boards, stories, etc.) that have been identified as activating the various aspects of memory. Some educators believe that the more aspects of memory that can become engaged with the material to be learned, the greater the likelihood of its retention (cf. Jensen, 1998; Sprenger, 1999).

4.3. Informal Methods for Evaluating Catechesis

One approach to informal methods for evaluating catechesis is to ask students to record in a diary their activities throughout the week. Examples of activities to be recorded are attending Mass, catechism/religious education classes, studying and working on assignments, and any other activities that the youngster participates in. Diaries diligently kept up throughout the school year can tell us something about whether children '... are aware of the demands of religious commitment in everyday life (RECD p. 10). The diaries are collected once a month and examined for patterns of recurring activities. The activities of each child are noted and listed when participation in an activity is documented twice in the diary and subsequent recurrences are noted by adding dates (e.g., day.**month**) of participation in the activity as found documented in the student's diary. The following are examples of recurring participation in activities from the diary of Justin,[11] a 10-year-old primary pupil:

1. Justin attends Sunday Mass with his family. 7.**3**, 14.**3**, 21.**3**, 28.**3**, 4.**4**, 11.**4**, 18.**4**, 25.**4**, 2.**5**, 9.**5**, 16.**5**, 23.**5**, 6.**6**, 13.**6**, 20.**6**, and 27.**6**.
2. Justin regularly attends catechism classes. 6.**3**, 13.**3**, 20.**3**, 27.**3**, 3.**4**, 10.**4**, 17.**4**, 24.**4**,

[11] Fictitious example.

30.4, 1.5, 8.5, 15.5, 22.5, 5.6, 12.6, 19.6, and 26.6.

3. Justin completes his assignments for catechism. 6.3, 13.3, 20.3, 27.3, 3.4, 10.4, 17.4, 24.4, 30.4, 1.5, 8.5, 15.5, 22.5, 5.6, 12.6, 19.6, and 26.6.
4. Justin participates in the centering prayer group after his catechism classes. 6.3, 13.3, 20.3, 27.3, 3.4, 10.4, 17.4, 24.4, 30.4, 1.5, 8.5, 15.5, 22.5, 5.6, 12.6, 19.6, and 26.6.
5. Justin works in the kitchen during the monthly parish suppers. 20.3, 17.4, 22.5, and 19.6.

These recurring patterns of participation in religious and other activities summarised above tend to tell us something about Justin's awareness of what it means to have a religious commitment in his everyday life. From the data it can be seen that Justin is conscientious about his attendance at Mass, parish activities, catechism classes, and completion of his catechism assignments. Related to this is the fact Justin's family is known for its commitment to the parish and church. The trend of Justin's participation in religious activities is in accord with one conclusion of a study of religious education amongst six major Protestant denominations that '...the two experiences most associated with higher faith maturity are level of family religiousness and the amount of exposure to Christian education' (Burning issues, 1990).

There are some other questions that can be applied to the data from the diaries to gain a sense of whether students are manifesting indicators of the 'pedestrian level of experitise of a catechised long-term working memory' referred to above. These indicators include (a) religious literacy, (b) knowledge, understanding and skills appropriate to age and capacity to think spiritually, ethically and theologically, and (c) awareness of the demands of a religious commitment in everyday life seen behaviourally in such practices as regular attendance at Mass, religious studies, and support of the Church via donations or personal service (adapted from RECD p. 10). The questions are presented below and have been applied to Justin's diary.

1. What religious or spiritual developmental tasks was Justin working on and how (cf. Beechick, 1982, p. 146)? Justin was learning basic Catholic doctrine and Bible teachings to enhance his personal faith and daily Christian living.
2. What assets or strengths does Justin bring to the process of his religious/spiritual development? Justin is a child whose family has a history of commitment to the Church.
3. What skills has Justin developed as a result of his catechism classes? Justin has learned how to use the Bible and prayer as resources to support his faith. Justin says that

memorisation of catechism assignments and Bible verses has helped him improve his memorisation of school materials as well (cf. Cionca, 1990, pp. 83-93; Wilhoit, 1983). Justin has learned about and is comfortable with different forms of prayer such as 'centering' and public petitionary prayer.

4. How has the Church contributed to Justin's spiritual and religious development? The Church provides catechism classes taught by a dependable catechist. The Church provides opportunities for worship and sharing throughout the week. The Church provides opportunities for Christian service to others.

There are certainly indicators of the 'pedestrian level of expertise of a catechised long-term working memory' in that Justin is religiously literate, with knowledge, understanding and skills appropriate to his age and capacity to think spiritually and religiously, and seems to have an awareness of the demands of a religious commitment seen behaviourally in his practises of regular attendance at Mass, religious studies, and support of the Church via personal service (adapted from RECD p. 10). This information combined with his examination results would provide a comprehensive evaluation of the impact of catechesis on his memory and religious development.

Summary

This chapter provided (1) a description of the stimuli that activate the selected aspects of memory and related these to the selected tasks of catechesis, (2) illustrations of some practical applications of what has been presented about the aspects of memory and the tasks of catechesis utilising articles intended as resources for catechetical pedagogy from the journal, *The Sower*, and (3) the description of an informal method for evaluating catechesis that involves students recording their activities in a diary that is reviewed by the catechist, along with assignments and tests.

The chapter that follows inquires into the catechetical aspect of memory, examines catechised memory as inculturation for incarnation, and reports on some serendipitous observation related to life-span catechesis.

5. DISCUSSION AND CONCLUSIONS

Prologue

The aim of this dissertation was to explicate memory's role in catechesis. A brief historical overview confirmed the continuity between catechesis and memory from the time of the apostles to the present. In Chapter 2, the selected tasks of catechesis, liturgy and worship, modeling, personal relationship, verbal instruction or explanation, listening attentively, and recitation, practice and study, and some selected aspects of memory for which they are stimuli were identified. The functions of the working, procedural, semantic, episodic, automatic and emotional aspects of memory were defined and summarised within a cognitive neuroscientific perspective in Chapter 3. The usefulness to catechists of knowledge about selected aspects of memory in planning and carrying out the tasks of catechesis was discussed in Chapter 4. In this final chapter, the role and relevance of memory to the tasks of catechesis throughout the life-span are discussed.

5.1. A Catechetical Aspect of Memory?

Notice that the title of this section is in the form of a question that needs a response. The notion of a catechetical aspect of memory is not at all farfetched in light of the fact that educational psychologists often refer to the aspects of 'thinking' related to academic subjects. An example of such a reference is found in the 1994 special issue of the journal *Educational Psychologist.* A series of papers on the teaching and learning of the subject of history are presented under the rubric 'thinking historically' (e.g., Booth, 1994; Leinhardt, Stainton, & Virji, 1994; Spoehr & Spoehr, 1994). Thinking historically is defined as a complex ability that '... demands a detailed, densely textured analysis of the relations amongst the facts. ... [T]he ability to apply abstract concepts to develop hypotheses about cause and effect; the hypotheses must be rigorously supported by the evidence and withstand the weight of counter-arguments' (Spoehr & Spoehr, 1994, p. 71). From this series of articles it becomes clear that anyone who thinks historically has received instruction, studied seriously and was mentored by someone who knows how to think historically.

Thinking historically as it is described above establishes criteria through which an individual can be seen to have attained a recognisable level of expertise in the domain of history. It can be assumed that thinking historically is a form of applied long-term working memory that indicates a considerable background of knowledge and understanding of history

(cf. LaDoux, 1996; Logie, 1999). It is reasonable to propose that thinking historically as demonstrated in the routine application of long-term working memory to the tasks of history is an indicator of the presence of an historical aspect of memory.[12]

The notion of an historical aspect of memory is meaningful for catechists because catechesis includes transmitting knowledge and understanding of '[t]he historical character of the mystery of salvation' (GDC 107-108). This catechesis introduces a unique notion of history referred to as 'salvation history':

> The history of salvation, recounting the 'marvels of God' (mirabilia Dei), what He has done, continues to do and will do in the future for us, is organised in reference to Jesus Christ, the 'center of salvation history' (cf. DCG 41). The preparation for the Gospel in the Old Testament, the fullness of Revelation in Jesus Christ, and the time of the Church, provide the structure of all salvation history of which creation and escatology are its beginning and its end (GDC 115, cf. 89).

It is assumed that catechists have attained some level of expertise in salvational historical thinking. In a manner that is analogous to academic historical thinking, the salvational historical thinking of the catechist represents a unique aspect of the application of long-term working memory. Initially, it was historical thinking and salvational historical thinking that led me to the notion that there is likely a unique catechetical aspect of memory. The catechetical aspect of memory is seen even in the pedestrian level of expertise of a catechised long-term working memory. Recall that it was noted above that this catechetical aspect of memory is manifested in an individual's religious literacy, knowledge, understanding and skills appropriate to age, and capacity to think spiritually and religiously, and includes an awareness of the demands of a religious commitment seen behaviourally in the practises of regular attendance at Mass, religious studies, and support of the Church via personal service (adapted from RECD p. 10). A catechetical aspect of memory is essential in the light of research that tells us that what, '... children or adults remember depends on what they already know about what they are remembering' (Kuhn, 2000, p. 23).

5.2. Catechised Memory: Inculturation for Incarnation

Amongst the academic papers on thinking historically discussed above, there was an example of a goal for thinking historically which was '... to understand and make meaningful

[12] It is worth being reminded here that, '... in educational psychology, the terms memory and knowledge are used almost interchangeably with respect to declarative [semantic] and procedural information' (Martin, 1993, p. 172).

who and what we are today' (Leinhardt, Stainton, & Virji, 1994, p. 88). Those of us who have been catechised or catechise others have a clear notion of what it means to understand and make meaningful who and what we are today:

> ... Jesus manifests that the history of humanity is not journeying towards nothingness, but with its aspects of both grace and sin, is in him taken up by God and transformed (GDC 102).

Catechised memory in the title of this section is another way of describing the catechised aspect of long-term working memory. The cathechised are often not as aware of it as they ought to be, but they are involved in the process of inculturation for incarnation. There are aspects of the Western culture that are constantly changing with results that are both beneficial and threatening to the well-being of Catholics and their Faith. It is the catechised memory that provides a perspective from which the individual can properly and confidently discern, judge and respond to these cultural innovations. Catholics can speak up and contend with the issues. They can work to shield those who may not have the knowledge and grace that a catechised memory affords to fend off the threatening and undermining temptations of the culture. As this section is being written, there is a television ad announcing that tonight's theological entertainment is featuring, 'The Last Temptation of Christ'.

Those who possess a catechised memory recognise their true fulfillment, know how they need to mature in themselves to attain their true end, and strive to behave toward others in a manner that supports them as they seek their true fulfillment (Willey, 1996, pp. 42-43; cf. 1997). A Catholic's true fulfillment is God (CCC 27, 1718-1724). To reach one's true fulfillment and true end requires cultivation of one's expertise in doing what God wants done in thought and action. It means enthusiastically learning and conforming one's behaviour to the commandments, virtues and beatitudes of the Gospel. We would not be seen to have a catechised memory if we remained unchanged and modified the meaning of the Gospel (cf. CT 53). Lastly, there is the ultimate in perspective-taking in one's recognition that others are seeking their true fulfillment and end in the same way that we are. The cultures of humankind need our catechised memories to bring the Gospel perspective to bear on social, recreational, educational, and business transactions:

> Genuine catechists know that catechesis 'takes flesh' in the various cultures and milieux: one has only to think of the peoples with their great differences, of modern youth, of the great variety of circumstances in which people find themselves today (CT 53).

A catechised memory is also a good basis for proactive responses within the culture in which we live and work. We can, for example, undertake to develop interventions to reduce the need for abortions by assisting young women in their time of need and contending with the legal, medical and social institutions that have been created as contemporary solutions for this problem. There are other more mundane ways that we witness such as remaining married to the same spouse throughout our lives which is a sign of fidelity that surprises others in the culture,[13] attending the liturgy of the Mass week after week, and, in our own way by preaching always and when necessary using words (attributed to St. Francis of Assisi. McCormack, 2000).

5.3. Serendipitous Observations and Life-Span Catechesis

Clearly, it is the Church's intention that the faithful will have access to a life-span catechesis (CT 35-45; GDC 171-188). Cavalletti (1983) maintains that, '... human beings are not fully developing unless their religious potential is stimulated and growing. ... It is systemic to human health' (p. 9). As we scan the life-span, it is apparent that liturgy and worship are amongst the selected tasks of catechesis that engage us to the very end of our lives. Mulvihill (1999) notes that, '[i]t is the Liturgy that is the first school of prayer, and it is by participating in its celebrations regularly and frequently that we grow in communion with God and grow in our faith in Christ (p. 117). The catechetical task of liturgy and worship includes, in some measure, the other catechetical tasks discussed in this dissertation such as modeling, personal relationship, verbal instruction or explanation, listening attentively, and recitation.

The serendipitous observations were of the meaningfulness of liturgy and worship to some persons afflicted with the severe memory impairment of Alzheimer's dementia. For example, whilst completing base-line assessments of nursing facility residents with probable Alzheimer's dementia, I learned about their positive recurring responses at weekly ecumenical worship services from care givers (Williams, 1994, October). These residents ranged in age from 63 to 89 years (M=75.5yrs / sd=9.8yrs). Ranges of impairment were from moderate cognitive decline (overtly decreased memory and problems traveling or managing personal finances) to severe decline (requiring supervision of daily life activities and

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13 Elderly couples in marriages that were intact since young adulthood who participated in a memory research in Massachusetts were found to have better memory ability than those who had been divorced or separated from a spouse.

manifesting personality and emotional changes), to very severe decline (incommunicative and completely dependent regarding all life activities) (Williams & Swift, 1994). The recurring responses observed during liturgy and worship were recitation of prayers, singing, receiving communion, weeping, and composure/quietness. These behaviours are noteworthy because the severity of cognitive decline had rendered some of these persons unable to feed themselves, recognise family members or respond to questions about who or where they were.

This observation that, in spite of the cognitive decline experienced by some Catholics with Alzheimer's dementia, their memories have enabled them to respond to the liturgy as if unimpaired places some considerable responsibility on us. It points to a need to work at thinking about how they remember the world (Cotrell & Schulz, 1993). Responding to people with Alzheimer's dementia from the perspective of their memories has been shown to be comforting and sustaining for them. Whitcomb (1993) has done it with hymns, inspirational songs, and music that was popular at the time of their youth. In a study on the effects of music, Lord and Garner (1993) '...suggest that music selected from a period when Alzheimer patients were much younger can assist them in recall, social interaction, and generally improved mood' (p. 454). This reinforces the notion that selecting hymns from the time when persons with Alzheimer's dementia were young may increase the meaningfulness of the liturgy and worship for them.

Selecting hymns from the past is just one of many things that can be done to enhance the liturgy and worship experiences for persons with Alzheimer's dementia. It would be helpful if there were worship time capsules (kits) with examples of prayers, hymns, sermon topics, versions of scripture, and descriptions of clerical dress (Lucero, 1993). The benefit of this approach has been noted by the Social Welfare Committee of the Bishops' Conference of England and Wales (1999, October):

> Many of those with dementia are helped by stirring their long-term memories of the Church ... with the use of familiar hymns, sights and smells.

In summary, some persons with Alzheimer's dementia seem to have memories that can be activated by liturgy and worship when it is similar to the way they experienced it when they were younger.

It is reasonable to infer that the individuals with severe memory impairment due to Alzheimer's dementia described above likely had the benefit of a catechetical aspect of

memory via a well catechised long-term working memory. I have often been asked for an explanation of why persons with Alzheimer's dementia are able to be so responsive to the liturgy and worship. At first, I believed that their responses were the result of the procedural, episodic and automatic aspects of their long-term memory. The trend of the research into preserved musical ability points rather to the sustained influence of the procedural and automatic aspects of memory (Beatty et al., 1999). Lastly, if we knew early on in life how important and meaningful our memory was to be for us later in our lives, we would likely have a more positive attitude toward memory development.

Conclusions. The primary value of this dissertation project is that it (1) descriptively related selected aspects of memory and tasks of catechesis in practical ways and (2) provided a view of the pervasive role that memory plays in catechesis. Whilst there may be others, the following are notions that I selected as being amongst the most meaningful and useful for the tasks of a life-long catechesis:

1. Amongst the selected tasks of catechesis, liturgy and worship is acknowledged to be a context that provides some of the most complex, enriching and engaging stimulation for memory (Chapter 2).
2. Whether a catechist intends it or not, one or more of the aspects of memory, working, procedural, semantic, episodic, automatic, or emotional will be activated depending upon the stimuli used to present the lesson and its context (Chapter 4).
3. Some contemporary educators believe that teachers and catechists are able to learn enough about the selected aspects of memory to understand how to prepare lessons or parts of lessons that can intentionally be directed toward one or more of the aspects of memory (Jensen, 1998; Martin, 1993; Sprenger, 1999) (Chapter 4).
4. Fluency and automaticisation of prayers and catechetical lessons can be facilitated by review and repetition during class, by teaching students how to recite, practise and memorise on their own, and by assigning material to be memorised for class (Chapter 2 and Chapter 4).
5. One of the aims of catechesis ought to be to achieve a catechisation of the long-term working memory of each student to at least a pedestrian level of expertise indicated by (a) religious literacy, (b) knowledge, understanding and skills appropriate to age and capacity to think spiritually, ethically and theologically, and (c) awareness of the demands of a religious commitment in everyday life seen behaviourally in such practices as regular

attendance at Mass, religious studies, and support of the Church via donations or personal service (adapted from RECD p. 10) (Chapter 4).

6. An adequate evaluation of the catechisation of long-term working memory requires that assignments and examination results be combined with data about whether children '... are aware of the demands of religious commitment in everyday life (RECD p. 10) (Chapter 4).
7. A catechised memory is also a good basis for proactive responses within the culture in which we live and work (Chapter 5).
8. Across the life-span it is the liturgy and worship amongst the selected tasks of catechesis that engage us and our memory to the very end of our lives (Chapter 5).

BIBLIOGRAPHY

Sacred Scripture

The Complete Parallel Bible with the Apocryphal/Deuterocanonical Books: New Revised Standard Version, Revised English Bible, New American Bible, and New Jerusalem Bible (1993), Oxford University Press

Conciliar and Magisterial Documents

AG - Second Vatican Council (1975): *Ad Gentes Divinitus*, in Flannery, A. (ed.): *Vatican Council II, Volume 1: The Conciliar and Post Conciliar Documents* (new rev.ed., pp. 813-856), Costello Publishing Co

CCC - *Catechism of the Catholic Church* (1994), St. Paul Books & Media

ComC - Archdiocese of Birmingham (1991): *Communicating Christ: A Policy Framework for Religious Education in the Catholic Schools of the Archdiocese of Birmingham*, Maryvale Institute

CT - John Paul II (1979): *Catechesi Tradendae*, Pauline Books & Media

DCG - Sacred Congregation for the Clergy (1982): *General Catechetical Directory,* in Flannery A. (ed.): *Vatican II: More Post Conciliar Documents* (pp. 529-605), The Liturgical Press

DD - John Paul II (1998): *Dies Domini*, Family Publications

DV - Second Vatican Council (1975): *Dei Verbum*, in Flannery, A. (ed.): *Vatican Council II, Volume 1: The Conciliar and Post Conciliar Documents* (new rev.ed., pp. 750-765), Costello Publishing Co

GDC - Congregation for the Clergy (1997): *General Directory for Catechesis*, United States Catholic Conference

ME - Sacred Congregation for the Doctine of the Faith (1982): *Mysterium ecclesiae*, in Flannery, A. (ed.): *Vatican II: More Post Conciliar Documents* (pp. 428-440), The Liturgical Press

MR - International Theological Commission (1999): *Memory and Reconciliation: The Church and the Faults of the Past*, Electronic Version From Internet Site: http://www.ewtn.com/

ND - Neuner, J. and Dupuis, J. (ed.) (1996): *The Christian Faith in the Doctrinal Documents of the Catholic Church* (6th revised and enlarged ed.), Alba House

PB - Sacred Congregation for Divine Worship (1975): *Puero Baptizatos*, in Flannery, A. (ed.):*Vatican Council II, Volume 1: The Conciliar and Post Conciliar Documents* (new rev.ed., pp. 254-270), Costello Publishing Co

PTE - Catholic Church (1960): *Papal Teachings: Education* (Selected and arranged by the Benedictine Monks of Solesmes; Translated by A. Rebeschini), Pauline Editions

RECD - Bishops' Conference of England and Wales (1996): *Religious Education: Curriculum Directory for Catholic Schools,* Catholic Educational Service

RP - John Paul II (1984): *Reconciliatio et Paenitentia*, United States Catholic Conference

SC - Second Vatican Council (1975): *Sacrosanctum Concilium*, in Flannery, A. (ed.): *Vatican Council II, Volume 1: The Conciliar and Post Conciliar Documents* (new rev.ed., pp. 1-36), Costello Publishing Co

SLF - United States National Conference of Catholic Bishops (1979): *Sharing the Light of Faith: National Catechetical Directory for Catholics of the United States*, United States Catholic Conference

SMP - Pontifical Council for the Pastoral Care of Migrants and Itinerant People (1999): *Shrine: Memory, Presence and Prophecy of the Living God*, Electronic Version From Internet Site: http://www.ewtn.com/

VS - John Paul II (1993): *Veritatis Splendor*, Pauline Books & Media

Books and Articles

American Editorial Commission, Center for Pastoral Liturgy, Catholic University of America (1982): *The Saint Andrew Bible Missal*, William J. Hirten

Anderson, E. B. (1997): 'Liturgical Catechesis: Congregational Practice as Formation', *Religious Education*, Vol. 92 no. 2, pp. 349-362

Ashcraft, M. H. (1989): *Human Memory and Cognition*, Harper Collins

Augustine, St. (1960): *The Confessions of Saint Augustine*, Image Books

Baddeley, A. (1986): *Working Memory*, Oxford University Press

Baddeley, A. (1995): 'Working Memory', in Gazzaniga, M. S. (ed.), *The Cognitive Neurosciences* (pp. 755-764), A Bradford Book/MIT Press

Bailly, C. I. (1981): 'Rhythmo-Catechesis, an Oral and Rhythmic Memorizing of the Gospel', *Lumen Vitae*, Vol. 36 no. 4, pp. 479-496

Bargh, J. A. and Chartrand, T. L. (1999): 'The Unbearable Automaticity of Being', *American Psychologist*, Vol. 54 no. 7, pp. 462-479

Beatty, W. W., Rogers, C. L., Rogers, R. L., English, S., Testa, J. A., Orbelo, D. M., Wilson, D. A., & Ross, E. D. (1999): 'Piano Playing in Alzheimer's Disease: Longitudinal Study of A Single Case', *Neurocase: Case Studies in Neuropsychology, Neuropsychiatry, & Behavioural Neurology*, Vol. 5 no. 5, pp. 459-469

Beechick, R. (1982): *A Biblical Psychology of Learning: How Your Mind Works*, Accent Books

Bishop, P. (1990): 'Worship', in Fink, P. E. (ed.): *The New Dictionary of Sacramental Worship* (pp. 1331-1332), The Liturgical Press

Boadt, L. (1984): *Reading The Old Testament: An Introduction*, Paulist Press

Booth, M. (1994): 'Cognition in History: A British Perspective', *Educational Psychologist*, Vol. 29 no. 2, pp. 61-69

Brown, A. L. et al. (1980): *Learning to Learn: On Training Students to Learn from Texts. Technical Report No. 189*, ERIC Document Reproduction Service No. ED 203 297

Brown, G. and Sproson, R. N. (1987): 'The Involvement of Memory and Metamemory in the Schoolwork of Secondary Pupils', *Educational Studies*, Vol 13 no. 3, pp. 213-221

Brown, R. E. and Collins, T. A. (1990): 'Church Pronouncements', in Brown, R. E., Fitzmyer, S. J., and Murphy, R. E. (eds.): *The New Jerome Biblical Commentary* (pp. 1166-1174), Prentice Hall

'Burning Issues in Education: Report of the Global Workshop on Education 2000', (1990): *Education Newsletter* (Office of Education, Program Unit III, Education and Renewal, World Council of Churches), Vol. 2, p. 13

Castelot, J. J. and Cody, A. (1990): 'Religious Institutions of Israel', in Brown, R. E., Fitzmyer, S. J., and Murphy, R. E. (eds.): *The New Jerome Biblical Commentary* (pp. 1253-1283), Prentice Hall

Catella, A. (1998): 'Theology of the Liturgy', in Chupungco, A. J. (ed.): *Handbook for Liturgical Studies, Vol. 2: Fundamental Liturgy* (pp. 3-28), The Liturgical Press

Cavelletti, S. (1983): *The Religious Potential of the Child*, Paulist Press

Cionca, J. R. (1990): *Solving Church Education's Ten Toughest Problems*, Victor Books

Clemens, B. (1960/62): *The System of Virtues of Father Chaminade*, The Marianists--Province of the Pacific

Cohen, N. R. (1996): 'Facts or Skills - Is There a Conflict?', *Journal of Biological Education*, Vol. 30 no. 4, pp. 275-280

Conrad, R. (1996): *God and Salvation in Jesus Christ*, Maryvale Institute

Conrad, R. (1997): 'New Testament Teaching on the Divinity of Christ', *The Sower*, Vol. 18 no. 2, pp. 11-14

Conrad, R. (1999): 'The Old Man with a Beard', *The Sower*, Vol. 20 no. 2, pp. 13-15

Conrad, R. (2000): 'Eternal Life', *The Sower*, Vol. 21 no. 2, pp. 12-15

Cotrell, V. and Schulz, R. (1993): 'The Perspective of The Patient With Alzheimer's Disease: A Neglected Dimension of Dementia Research', *The Gerontologist*, Vol. 33, pp. 205-211

Crahay, M. (1996): 'Learning To Think or Learning to Memorize? A Constructivist Reformulation of An Old Dilemma', *Prospects*, Vol. 26 no. 1, pp. 55-83

D'Arcangelo, M. (1999): 'Learning About Learning to Read: A Conversation with Sally Shaywitz', *Educational Leadership*, Vol. 57 no. 2, pp. 26-31

Delfanne, M. (1996): 'The Year of Our Lord 1996-1997', *The Sower*, Vol. 18 no.1, pp. 18-20

Delfanne, M. (1997a): 'Models of Faith', *The Sower*, Vol. 18 no. 2, pp. 17-19

Delfanne, M. (1997b): 'Images of Our Lady', *The Sower*, Vol. 18 no.3, pp. 17-19

Delfanne, M. (1997c): 'Beastly Behaviour', *The Sower*, Vol. 19 no.1, pp. 16-19

Delfanne, M. (1998a): 'The Holy Spirit: Secret Agent', *The Sower*, Vol. 19 no.2, pp. 20-21

Delfanne, M. (1998b): 'Picturing Hope', *The Sower*, Vol. 19 no.3, pp. 17-19

Delfanne, M. (1998c): 'The Four Evangelists', *The Sower*, Vol. 20 no. 1, pp. 16-19

Delfanne, M. (1999a): 'God: Father and Creator', *The Sower*, Vol. 20 no. 2, pp. 20, 18-19

Delfanne, M. (1999b): 'The Symbols of Love', *The Sower*, Vol. 20 no. 3, pp. 18-20

de Murville, M. C. (2000): 'Local Saints and Catechesis', *The Sower*, Vol. 21 no. 2, pp. 15-17

DeVillers, S. (1994): *Lectionary-Based Catechesis for Children: A Catechist's Guide*, Paulist Press

Diamond, A., Prevor, M. B., Callender, G., and Druin, D. P. (1997): 'Prefrontal Cortex Cognitive Deficits in Children Treated Early and Continuously for PKU', *Monographs of the Society for Research in Child Development*, Vol. 62 no. 4, Serial No. 252

DiGiacomo, J. and Wakin, E. (1972): 'Bringing Religion Home: What Parents Can Do--', *U.S. Catholic*, Vol. 37 no. 7, pp. 6-13

Elkind, D. (1964): 'The Child's Conception of His Religious Identity', *Lumen Vitae*, Vol. 19 no. 4, pp. 635-646

Elkind, D. (1970): 'Research and Evaluation in Teaching Religion', in Lee, J. M. and Rooney, P. C. (eds.): *Toward a Future for Religious Education* (pp. 208-232), Pflaum Press

E.T.T.A. (1983): *Teaching Techniques for Church Education*, Evangelical Teacher Training Association

Farey, C. (1999): 'Pilgrimage and the Jubilee', *The Sower*, Vol. 21 no. 1, pp. 30-32

Fleming, N. (1996): *New Testament*, Maryvale Institute

Flint, B. (1996): 'Teaching Through Stained Glass', *The Sower*, Vol. 18 no. 1, pp. 16-17

Galliano, G. (1999): 'Enhancing Student Learning Through Exemplary Examples', in Perlman, B., McCann, L. I. and McFadden, S. H. (eds.): *Lessons Learned: Practical Advice for the Teaching of Psychology* (pp. 87-92), The American Psychological Society

Gettinger, M. and Knopik, S. N. (1987): 'Children and Study Skills', in Thomas, A. and Grimes, J. (eds.): *Children's Needs: Psychological Perspectives* (pp. 594-602), The National Association of School Psychologists

Goldman, R. (1964): *Religious Thinking from Childhood to Adolescence*, The Seabury Press

Goldman, R. (1965): *Readiness for Religion: A Basis for Developmental Religious Education*, The Seabury Press

Grigassy, D. P. (1990): 'Children, First Penance and', in Fink, P. E. (ed.): *The New Dictionary of Sacramental Worship* (pp. 187-191), The Liturgical Press

Hallam, S. (1997): 'The Development of Memorisation Strategies in Musicians: Implications for Education', *British Journal of Music Education*, Vol. 14 no. 1, pp. 87-97

Hamachek, D. (1990): *Psychology in Teaching, Learning, and Growth* (4th ed.), Allyn and Bacon

Hanlon, K. (1996): 'Pilgrims and Their Ways: A Scheme of Work for Years 10-11', *The Sower*, Vol. 18 no. 1, pp. 31-33

Harvey, V. S. (1995): 'Teaching Study Skills', in Thomas, A. and Grimes, J. (eds.): *Best Practices in School Psychology--III* (pp. 931-942), The National Association of School Psychologists

Hayes, E. A. and Hood, J. M. (1982): 'Rote Memorisation as a Teaching Strategy', *Reading Improvement*, Vol. 19 no. 4, pp. 319-321

Healy, K. (1996): 'Putting the Question in RE', *The Sower*, Vol. 18 no. 1, pp. 29-30

Hergenhahn, B. R. (1988): *An Introduction to Theories of Learning* (3rd ed.), Prentice Hall

Hodges, D. L. (1982): 'A Teacher's Guide to Memory Techniques', *Focus on Productivity*, No. 7 (Spring), pp. 23-27; ERIC Document Reproduction Service No. ED 220 155

Huck, G. and Chinchar, G. T. (1998): *Liturgy with Style and Grace*, Liturgy Training Publications

Hudnut-Beumler, J. and Sack, D. (2000): 'The Material World of Catholic Childhood', *The Material History of American Religion Project Electronic Journal*. Retrieved January 25, 2000 from the World Wide Web: http://www.materialreligion.org

Irwin, K. W. (1994): *Context and Text: Method in Liturgical Theology*, The Liturgical Press

Isert, L. F. (1969): 'Religious Education in the Light of Current Psychological Concepts of Development', *Catholic Educational Review*, Vol. 66 no. 10, pp. 656-663

Jensen, E. (1998): *Teaching With The Brain In Mind*, Association for Supervision and Curriculum Development

Katz, N., Baker, E., and Macnamara, J. (1974): 'What's a Name? A Study of How Children Learn Common and Proper Names', *Child Development*, Vol. 45, pp. 469-473

Kember, D. (1996): 'The Intention to Both Memorise and Understand: Another Approach to Learning?', *Higher Education*, Vol. 31 no. 3, pp. 341-354

Kilpatrick, W. (1997): 'Stories, Models and Virtue', *The Sower*, Vol. 19 no. 1, pp.5-7

Kimberg, D. Y., D'Esposito, M., and Farah, M. J. (1997): 'Cognitive Functions in the Prefrontal Cortex?-Working Memory and Executive Control', *Current Directions in Psychological Science*, Vol. 6 no. 6, pp. 185-194

Konstant, D. (1980): 'Memory and Catechesis', in Nichols, K. (ed): *Voice of the Hidden Waterfall: Essays on Religious Education in Honour of Francis Drinkwater* (pp. 76-94), St. Paul Publications

Krosnicki, T. A. (1990): 'Gesture and Movement in the Liturgy', in Fink, P. E. (ed.): *The New Dictionary of Sacramental Worship* (pp. 494-503), The Liturgical Press

Kuepper, J. E. (1990): 'Best Practices in Teaching Study Skills', in Thomas, A. and Grimes, J. (eds.): *Best Practices in School Psychology--II* (pp. 711-721), The National Association of School Psychologists

Kuhn, D. (2000): 'Does Memory Development Belong on an Endangered Topic List?', *Child Development*, Vol. 71 no. 1, pp. 21-25

LaVerdiere, E. (1994): 'Commit Your Faith to Memory', *U.S. Catholic*, Vol. 57 no. 8, pp. 35-36

LeDoux, J. (1996): *The Emotional Brain: The Mysterious Underpinnings of Emotional Life*, Touchstone

Leinhardt, G., Syainton, C. and Virji, S. M. (1994): 'A Sense of History', *Educational Psychologist*, Vol. 29 no. 2, pp.79-88

Littky, D. and Allen, F. (1999): 'Whole-School Personalisation, One Student at a Time', *Educational Leadership*, Vol. 57 no. 1, pp. 24-28

Logie, R. H. (1999): 'Working Memory', *The Psychologist*, Vol. 12 no. 4, pp. 174-178

Lord, T. R. and Garner, J. E. (1993): 'Effects of Music On Alzheimer Patients', *Perceptual and Motor Skills*, Vol. 76, pp. 451-455

Lowman, J. (1995): *Mastering the Techniques of Teaching* (2nd ed.), Jossey-Bass

Lucero, M. (1993): 'Clearing The Fog About Dementias', Conference sponsored at New Hampshire Hospital by Staff Development Department and the Professional Seminars Committee, Concord, New Hampshire, USA

Madden, L. J. (1990): 'Liturgy', in Fink, P. E. (ed.): *The New Dictionary of Sacramental Worship* (pp. 740-742), The Liturgical Press

Maggiani, S. (1998): 'The Language of Liturgy', in Chupungco, A. J. (ed.): *Handbook for Liturgical Studies, Vol. 2: Fundamental Liturgy* (pp. 227-261), The Liturgical Press

Marianist Project (1989): *Marianist Heritage Documents*, Unpublished Manuscripts

Mallon, V. T. (November 1980): 'Nine x Nine and The Three-cent Pickle', *Priest*, Vol. 36, pp. 6-7

Markman, A. B. and Gentner, D. (1997): 'Effects of Alignability on Memory', *Psychological Science*, Vol. 8 no. 5, pp. 363-367

Martin, J. (1993): 'Episodic Memory: A Neglected Phenomenon in the Psychology of Education', *Educational Psychologist*, Vol. 28 no. 2, pp. 169-183

Massion, J. C. (January 1993): 'To Memorize or Not to Memorize?', *Religion Teacher's Journal*, Vol. 26, pp. 27-28

May, W. E. (1994): *An Introduction to Moral Theology* (rev. ed.), Our Sunday Visitor

McCormack, J. B. (2000): 'Preach Often and, If Necessary, Use Words', *Tidings*, Vol. 13 no.3, p. 2

McKenzie, J. L. (1965): *Dictionary of the Bible*, Simon and Schuster

McLoughlin, H. (1996): 'Advent and Christmas in a Catholic Home', *The Sower*, Vol. 18 no. 1, pp. 26-28

McNamara, P. (1995): 'Review of *Neuropsychological Basis of God Beliefs* by M. A. Persinger', *Psychology of Religion Newsletter, American Psychological Association, Division 36*, Vol. 20 no. 1, p. 9

Melloh, J. A. (1990): 'Liturgical Time, Theology of', in Fink, P. E. (ed.): *The New Dictionary of Sacramental Worship* (pp. 733-740), The Liturgical Press

Milman, C. (1979): 'The Metronome and Rote Learning', *Academic Therapy*, Vol. 14 no. 3, pp. 321-325

Morris, A. B. (1999): 'Catholic Schools: Past, Present and Future Imperfect', *The Sower*, Vol. 20 no. 2, pp. 5-9

Morris, W. (ed.) (1975): *The American Heritage Dictionary of the English Language*, American Heritage Publishing Co. / Houghton Mifflin

Mulvihill, M. (1999): *Liturgy, Worship and Prayer*, Maryvale Institute

Neimark, E. et al. (1971): 'Development of Memorisation Strategies', *Developmental Psychology*, Vol. 5 no. 3, pp. 427-432

Nichols, V. (2000, March 4): *Address to the Catholic Association of Schools and Colleges* [Press Release], Retrieved 13 March 2000 from the World Wide Web: http://www.tasc.ac.uk/cc/cn/00/000306c.htm

Novak, M. (1996): 'What the Liturgist Needs to Know About Catechesis', *Modern Liturgy*, Vol. 23 no. 3, pp. 6-7.

Ostdiek, G. (1990): 'Catechesis, Liturgical', in Fink, P. E. (ed.): *The New Dictionary of Sacramental Worship* (pp. 163-172), The Liturgical Press

Parsons, J. (1996): 'Memory - The Forgotten Cognitive Skill: Encouraging the Development of Memory Strategies in Signing Pupils', *Journal of the British Association of Teachers of the Deaf*, Vol. 20 no. 4, pp. 101-110

Pelikan, J. (1985): *Jesus Through the Centuries: His Place in the History of Culture*, Harper and Row

Pennington, M. B. (1986): *Centered Living: The Way of Centering Prayer*, Doubleday & Company

Perryman-Delfanne, M. (1999): 'Judaism', *The Sower*, Vol. 21 no. 1, pp. 18-20

Perryman-Delfanne, M. (2000): 'The Three Heavens', *The Sower*, Vol. 21 no. 2, pp. 18-20

Persinger, M. A. (1987): *Neuropsychological Bases of God Beliefs*, Praeger

Philibert, P. J. (1980): 'The Promise and Perils of Memorisation', *The Living Light*, Vol. 17 no. 4, pp. 299-310

Piaget, J. (1974): 'The Future of Developmental Child Psychology', *Journal of Youth and Adolescence*, Vol. 3 no. 2, pp. 87-93

Piaget, J. and Inhelder, B. (1969): *The Psychology of the Child* (Translated by Helen Weaver), Basic Books

Pinkus, L. M. (1998): 'The Psychosociological Aspects of the Liturgy', in Chupungco, A. J. (ed.): *Handbook for Liturgical Studies, Vol. 2: Fundamental Liturgy* (pp. 175-187), The Liturgical Press

Ranwez, P. (1968): 'Parents as Educators of their Children's Faith', *Lumen Vitae*, Vol. 23 no. 1, pp. 71-88

Ranwez, P. (1970): 'The Awakening and Development of the Sense of God in 6 to 8-Year-Old Pupils', *Lumen Vitae*, Vol 25 no. 4, pp. 617-626

Richstatter, T. (1990): 'Ministry School, Liturgy In', in Fink, P. E. (ed.): *The New Dictionary of Sacramental Worship* (pp. 837-842), The Liturgical Press

Roberts, G. C. and Black, K. N. (1972): 'The Effect of Naming and Object Permanence On Toy Preferences', *Child Development*, Vol. 43, pp. 858-868

Rozanski, A., Bairey, C. N., Krantz, D. S., Friedman, J., Resser, K. J., Morell, M., Hilton-Chalfen, S., Hestrin, L., Bietendorf, J., and Berman, D. S. (1988): 'Mental Stress and the Induction of Silent Myocardial Ischemia in Patients with Coronary Artery Disease', *The New England Journal of Medicine*, Vol. 318 no. 16, pp. 1005-1012

Ryan, D. (1977): 'Memorisation: What is Its Place in Catechetics; Synod '77', *Origins*, Vol. 7 (October), pp. 298-299

Ryan, D. (1978): 'Committing Formulas to Memory', *Living Light*, Vol 15 no. 3, pp. 45-47

Sattler, J. M. (1988): *Assessment of Children* (3rd ed.), Jerome M. Sattler, Publisher

Sattler, J. M. (1992): *Assessment of Children* (revised and updated 3rd ed.), Jerome M. Sattler, Publisher

Schaeffer, F. (1994): *Dancing Alone: The Quest for Orthodox Faith in the Age of False Religions*, Holy Cross Orthodox Press

Schimmels, C. (1999): *Teaching That Works: Strategies From Scripture for Classrooms Today*, Standard Publishing

Schmaus, M. (1975): *Dogma 5: The Church as Sacrament*, Sheed and Ward

Schmidt, P. (1993): *How to Read the Gospels*, St. Pauls

Schneider, W. and Pressley, M. (1997): *Memory Development Between Two and Twenty* (2nd ed.), Lawrence Erlbaum Associates

Schneiders, S. M. (1997): 'Scripture and Spirituality', in McGinn, B., Meyendorff, J., and Leclercq, J. (eds.): *Christian Spirituality: Origins to the Twelfth Century* (pp. 1-20), Crossroad

Scott, L. C. and Goetz, E. M. (1978): *Memorisation Tasks: Rote Learning Vs. "Fun" Learning*, ERIC Document Reproduction Service No. ED 174 357

Social Welfare Committee of the Bishops' Conference of England and Wales (1999, October): *Spiritual Needs of People With Dementia* [Press Release], Retrieved 1 February 2000 from the World Wide Web:http://www.tasc.ac.uk/cc/cn/ 00/ 000306c.htm

Soggin, J. A. (1993): *An Introduction to The History of Israel and Judah*, Trinity Press International

Spoehr, K. T. and Spoehr, L. W. (1994): 'Learning to Think Historically', *Educational Psychologist*, Vol. 29 no. 2, pp. 71-77

Sprenger, M. (1998): 'Memory Lane is a Two-Way Street', *Educational Leadership*, Vol. 56 no. 3, pp. 65-67

Sprenger, M. (1999): *Learning and Memory: The Brain in Action*, Association for Supervision and Curriculum Development

Sternberg, R. J. (1999): 'A Comparison Amongst Three Models for Teaching Psychology', *Psychology Teaching Review*, Vol. 8 no. 1, pp. 37-43

Sylwester, R. (1985): 'Research on Memory: Major Educational Challenges', *Educational Leadership*, Vol. 42 no. 7, pp. 69-75

Thibeault, T. (25-26 September 1999): 'The View From My Window...', *Immaculate Conception Parish Community* (Bulletin), Penacook, New Hampshire, USA

Thompson, R. F. (1988): 'Brain Substrates of Learning and Memory', in Boll, T. and Bryant, B. K. (eds.), *Clinical Neuropsychology and Brain Function: Research, Measurement, and Practice* (pp. 57-83), American Psychological Association

Todhunter, J. M. (1973): 'Memorisation Has Its Place', *Today's Education*, Vol. 62 no. 4, pp.37-38

Topley, R. (1996): 'A Ritual for Honouring Sunday', The Sower, Vol. 18 no. 1, p. 21

Tulving, E. (1985): 'How Many Memory Systems Are There?', *American Psychologist*, Vol 40 no. 1, pp. 385-398

Tulving, E. (1993): 'What is Episodic Memory?', *Current Directions in Psychological Science*, Vol. 2 no. 3, pp. 67-70

Tulving, E. (1995a): 'Introduction', in Gazzaniga, M. S. (ed.), *The Cognitive Neurosciences* (pp. 751-753), A Bradford Book/MIT Press

Tulving, E. (1995b): 'Organisation of Memory: Quo Vadis', in Gazzaniga, M. S. (ed.), *The Cognitive Neurosciences* (pp. 839-847), A Bradford Book/MIT Press

Ulrich, M. (1999): 'Memorising Scripture Made Simpler', *The Sower*, Vol. 20 no. 3, p. 31

Vereecke, R. (1990): 'Gestures, Liturgical', in Fink, P. E. (ed.): *The New Dictionary of Sacramental Worship* (pp. 503-513), The Liturgical Press

Ward, H. (1997): 'Story-Telling and Story-Analysis', *The Sower*, Vol. 19 no. 1, p. 29

Whitcomb, J. B. (1993): 'The Way To Go Home: Creating Comfort Through Therapeutic Music and Milieu', *The American Journal of Alzheimer's Care and Related Disorders & Research*, Vol. 8 no. 6, pp. 1-10

Wilhoit, J. (1983): 'Memory: An Area of Difference Between Piaget and Goldman', *Journal of Christian Education*, Vol. 2, pp. 11-14

Wilhoit, J. (1986/91): *Christian Education and the Search for Meaning* (2nd ed.), Baker Book House

Wilkins, S. (1999a): 'Good Manners at Mass: Should We Bow or Kneel?', *Religion Teacher's Journal*, Vol. 33 no. 4, pp. 26-27

Wilkins, S. (1999b): 'Good Manners at Mass: Statues, Stained Glass, and Saints!', *Religion Teacher's Journal*, Vol. 33 no. 5, pp. 36-37

Wilkins, S. (1999c): 'Good Manners at Mass: Colours, Colours Everywhere', *Religion Teacher's Journal*, Vol. 33 no. 6, pp. 16-17

Willey, P. (1996): *Personal, Moral and Social Education*, Maryvale Institute

Willey, P. (1997): 'Editor's Notes', *The Sower*, Vol. 18 no. 3, p. 4

Willey, P. (1998): 'A Fairy-Tale Hope', *The Sower*, Vol. 19 no.3, pp. 20-21

Willey, P. and Willey, K. (1992): *Become What You Are: The Call and Gift of Marriage*, Harper Collins

Williams, R. (1976): 'Attainment of Common and Proper Names and Later Conceptual Notions of Names', *Perceptual and Motor Skills*, Vol. 43, p. 1134

Williams, R. B. (1994, October): *Worship and Nursing Facility Residents with Dementia.* Paper presented at the Christian Association for Psychological Studies East '94 Convention, Sandy Cove, North East, Maryland

Williams, R. B. and Gay, J. E. (1998): Church Through the Eyes of Sunday School Children', *Education*, Vol. 119 no. 1, pp. 78-81, 77

Williams, R. B. and Swift, M. B. (1994): 'Comments On a Process for Identifying Stages of Dementia in Residents of Nursing Facilities', *Psychological Reports*, Vol. 75, pp. 743-746

Wolfe, P. and Brandt, R. (1998): 'What Do We Know From Brain Research?', *Educational Leadership*, Vol. 56 no. 3, pp. 8-13

Wuerl, D. W., Lawler, R., and Comerford, T. (eds.). (1995): *The Teaching of Christ: A Catholic Catechism for Adults* (4th ed.), Our Sunday Visitor

Yates, S. (1997): 'Mary, the Model of Prayer: A Way of Praying for Junior Children', *The Sower*, Vol. 18 no. 3, pp. 14-15

Zakrajsek, T. (1999): 'Developing Effective Lectures', in Perlman, B., McCann, L. I. and McFadden, S. H. (eds.): *Lessons Learned: Practical Advice for the Teaching of Psychology* (pp. 81-86), The American Psychological Society

Ziesler, J. (1983/90): *Pauline Christianity* (rev. ed.), Oxford University Press

d. Nonprint Media

Fleming, N. (1998): *New Testament: M.Ed. Year 1* (Cassette Recording), Maryvale Institute